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INDIANA UNIVERSITY OF PENNSYLVANIA IS ACCREDITED BY THE NATIONAL COUNCIL FOR ACCREDITATION OF TEACHER EDUCATION AND THE MIDDLE STATES ASSOCIATION OF COLLEGES AND SECONDARY SCHOOLS.

INDIANA UNIVERSITY OF PENNSYLVANIA IS COMMITTED TO AFFIRMATIVE ACTION AND PROVIDES EQUAL EDUCATION AND EMPLOYMENT OPPORTUNITIES UNDER TITLE IX.

Indiana University of Pennsylvania Bulletin

1976-1978 Undergraduate Catalog

INDIANA UNIVERSITY OF PENNSYLVANIA
INDIANA, PENNSYLVANIA 15701

VER BY: KATHY BUSER '77

TELEPHONE: (412) 357-2100

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University Calendar

FALL SEMESTER — 1976

Registration	Wed.—Fri.	Sept. 8—10
Classes begin	Sat.	Sept. 11
Thanksgiving recess begins at close of classes	Wed.	Nov. 24
Classes resume at 8:00 a.m.	Mon.	Nov. 29
Final Examinations	Fri.—Wed.	Dec. 17—22

SPRING SEMESTER — 1977

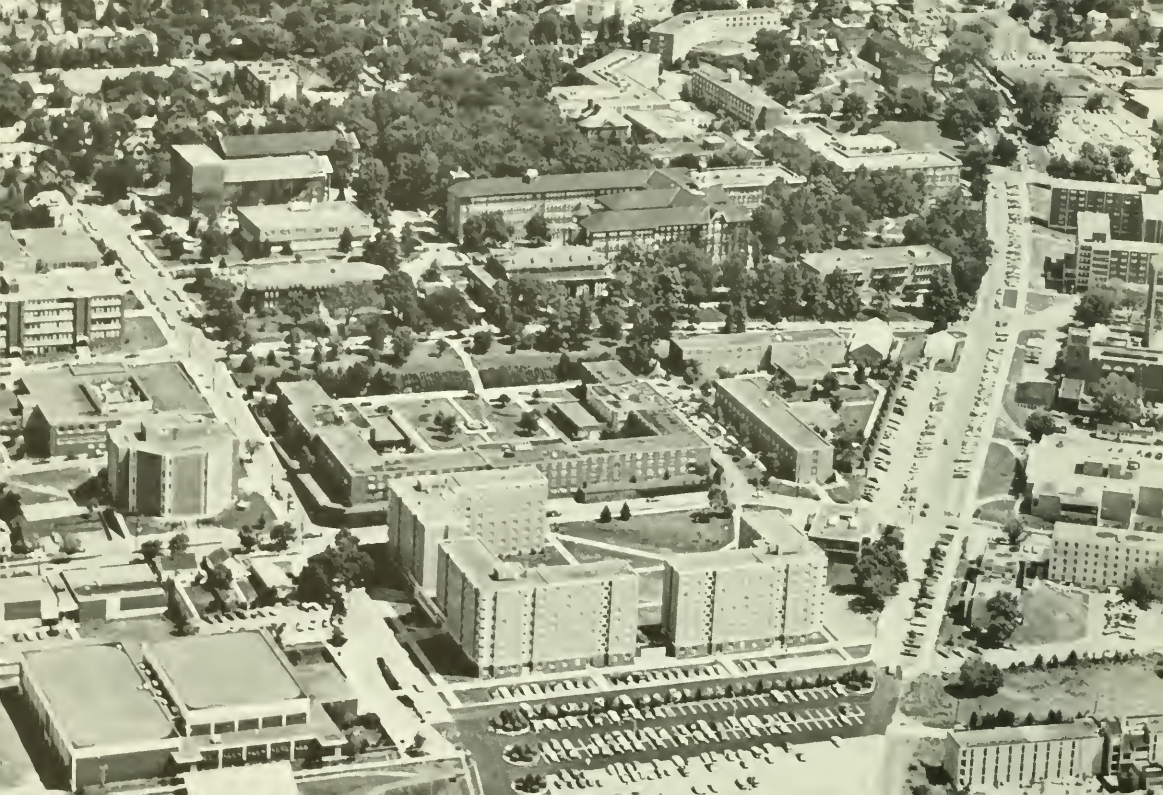
Registration	Wed.—Fri.	Jan. 19—21
Classes begin	Sat.	Jan. 22
Spring-Easter vacation begins at close of classes	Sat.	Mar. 26
Classes resume at 8:00 a.m.	Mon.	Apr. 11
Final Examinations	Sat.—Fri.	May 14—20
Graduation	Sun.	May 22

FALL SEMESTER — 1977

Registration	Tues.—Thur.	Sept. 6—8
Classes begin	Fri.	Sept. 9
Thanksgiving recess begins at close of classes	Wed.	Nov. 23
Classes resume at 8:00 a.m.	Mon.	Nov. 28
Final Examinations	Sat.—Thur.	Dec. 17—22

SPRING SEMESTER — 1978

Registration	Wed.—Fri.	Jan. 18—20
Classes begin	Sat.	Jan. 21
Spring-Easter vacation begins at close of classes	Mon.	Mar. 20
Classes resume at 8:00 a.m.	Mon.	Apr. 3
Final Examinations	Sat.—Fri.	May 13—19
Graduation	Sun.	May 21



The University

PURPOSES OF THE UNIVERSITY

As a multi-purpose institution, Indiana University of Pennsylvania encompasses the Schools of Arts and Sciences, Business, Continuing and Non-Resident Education, Education, Health Services, Home Economics, Fine Arts and the Graduate School. Indiana University of Pennsylvania endeavors to fulfill the primary purposes of education as stated by Alfred North Whitehead, namely, "To stimulate and guide student self-development" so the student learns how to make a living and how to live.

As Emerson noted in his Journal over a hundred years ago, "The things taught in schools and colleges are not an education but the means of education." At Indiana University of Pennsylvania, these "means of education" comprise a variety of factors. First, there is a pervasive, intellectual climate designed to stimulate the student's imagination, stretch his mind, and extend his tolerance as he rubs minds with new ideas, teachers, and associates in the classroom, laboratory, and library. These intellectual contacts also tend to develop critical independent judgments, mental discipline, and the ability to make mature decisions.

The various curricula provide the student with a broad perspective enabling him to appreciate his cultural heritage and affording him the opportunity to pursue in considerable depth his particular sphere of interest. Such a comprehensive program inevitably includes some knowledge that is worth having, not for any material gain, but simply because it enriches one's existence.

Undergirding the entire academic program is the philosophy that in the final analysis there is no education except self-education. Consequently, the faculty strive to whet intellectual appetites and to inculcate the problem-solving approach, so that the student will acquire both the desire and the ability to teach himself. In this way, Commencement truly will become the beginning of "life-long learning."

In addition to enabling students to acquire professional skills and enrich their cultural existence, the University endeavors to instill in each student a social consciousness, which will make him a contributive and substantive member of society, for as de Tocqueville emphasized, we cannot have a strong democratic society without a good quality of citizenship. This attribute of good citizenship accrues partly from academic study and partly as a result of the social mores and associations which one encounters and experiences in college.

Intertwined with the goal to increase the student's social awareness and consideration for his fellow men is the development of moral fibre. General Omar N. Bradley is duly disturbed by the fact that "ours is a world of nuclear giants and ethical infants." Indiana University of Pennsylvania firmly believes that no education, regardless of its academic excellence, can fulfill its true potential unless students are inspired and guided by spiritual values and moral considerations.

Admittedly the University cannot succeed in realizing all of these goals; however, even this is part of the dynamic

educational process of becoming rather than attaining.

This University welcomes qualified students, faculty, and staff from all racial, religious, ethnic, and socio-economic backgrounds.

HISTORY OF THE UNIVERSITY

Throughout the entire history of the University at Indiana, great emphasis has been placed on maintaining high academic standards and providing adequate facilities conducive to individual and group growth. The present record and reputation enjoyed by the University have evolved during a century's history. Growing out of the need for a teacher training institution in Western Pennsylvania, the General Assembly passed an act in the legislative session of 1871 granting aid for the establishment of a Normal School in the Ninth District, at Indiana.

The first building, named John Sutton Hall in honor of the first president of the Board of Trustees, was completed and opened for students on May 17, 1875.

The steady growth of the institution has caused a continuous expansion in its building program and many new buildings have followed John Sutton Hall. The size and natural beauty of the University campus offer ample opportunity for recreation in an environment conducive to personal enjoyment. The main campus of the University, originally consisting of 12 acres with one building, is now composed of a total of 106 acres on which are located 59 principal halls, 20 other buildings, and seven athletic fields. The University Lodge, located a few miles from Indiana and surrounded by 280 acres of wooded hillside, offers opportunity for nature study and numerous University activities.

In April, 1920, control and ownership of the school passed to the Commonwealth of Pennsylvania. In May, 1927, by authority of the General Assembly, the State Normal School became a college, with the right to grant degrees. The name was then changed to the State Teachers College at Indiana, Pennsylvania. In 1950 the ROTC Program was established. The name of the institution was changed again, in 1960, to Indiana State College, setting the stage for a liberal arts program which graduated its first students in January, 1964.

In December, 1965, Indiana was redesignated the Indiana University of Pennsylvania and given the right to expand its curricula offerings and to grant degrees at the master's level, as well as in a number of additional areas at the doctoral level.

Since the founding of the University in 1875, Indiana has graduated over 40,000 students, and since the University became a degree-conferring institution in 1927, 30,000 degrees have been granted. Many of the graduates are organized into a strong Alumni Association, with units active in many sections of Pennsylvania, as well as in New York, Michigan, and the District of Columbia. The Alumni Association cooperates with the University in many projects designed to better the institution and for the welfare of the students.

ACCREDITATION

The Indiana University of Pennsylvania is a state-owned and state-controlled institution for higher education. It is a multi-purpose institution, composed of eight schools.

The University is an approved and fully accredited member of the Middle States Association of Colleges and Secondary Schools, the National Council for the Accreditation of Teacher Education and the American Chemical Society. The fact that this University is a member of these organizations is of immediate personal importance to the individual student in two ways: first, the student may transfer college credits from one approved institution to another without loss in case he finds it necessary to change colleges; and second, the student who is a graduate of an approved institution is eligible for a better position.

LOCATION

Located in Indiana Borough, Indiana County seat, in the foothills of the Alleghenies at an elevation of about 1,300 feet, the Indiana University of Pennsylvania is ideally situated for cleanliness and beauty. The University is easily accessible by automobile over excellent state highway routes coming from all sections of the state. These leading routes are Route 422 east and west, Route 286 northeast and southwest, and Route 119 north and south. Bus passenger services operate on frequent schedules to and from Indiana and all nearby cities and towns, including Pittsburgh, Altoona, Johnstown, Butler, Punxsutawney, Kittanning, DuBois, Ridgway, New Castle and others. Indiana is also served by bus connections with the main line of the Pennsylvania Railroad at Johnstown and Pittsburgh.

BUILDINGS AND GROUNDS

The campus at Indiana is frequently described as one of the most beautiful in the state. Located in the borough of Indiana, the main campus contains a total of 106 acres and includes 79 major buildings. In the center of the campus is the historic Oak Grove, about which are grouped many of the main buildings, forming three sides of a quadrangle.

COMPUTER CENTER

The Computer Center, established in July, 1963, is located on the ground floor of Stright Hall. The Center provides computational support for undergraduate and graduate courses, faculty and student research, and the administrative requirements of the University. The computing capacity of the Center is provided by a large-scale disk oriented central processor which supports both time-sharing and batch processing services for the university community. Typewriter terminals, located both in the Computer Center and in various departments on campus, permit the use of the computer on a time-sharing basis. Terminal facilities and a full complement of tabulating equipment are available in the Computer Center for student use. Additional terminal facilities are also available in many departments on campus. Aid in the use of the computer and facilities may be obtained from user assistants on duty at

the Computer Center, and from the Center's professional staff.

Indiana's Computer Center plays an active part in the daily functioning of the University. It is the principle laboratory facility for computer-oriented courses and is used as a teaching aid in many classes involving statistical and numerical analyses and computer simulations. The staff at the Center is actively involved in continuing work aimed at making computers a more effective and readily accessible tool for both the academic and administrative segments of the university community.

STABLEY LIBRARY

The Rhodes R. Stabley Library was completed in the spring of 1961. The three story, air-conditioned building provides study room for about 550 students. Together with annex facilities in other campus buildings, it houses 400,000 volumes.

An instructional program in the use of library tools and reference books is presented by the staff to develop skills in library use. The well-organized general holding is enhanced by the reference collection, 2630 current magazines, extensive files of bound magazines, 760,000 units of microforms, 7160 filmstrips and 4000 recordings.

Most materials are available by the "open stack" system which encourages the habit of using books freely.

INSTRUCTIONAL RESOURCES SERVICES

The University support service dealing with instructional systems technology has been developed to assist in the teaching/learning process by making available sensory or non-book materials for instruction and actively assisting faculty in the process of instructional development.

The services consist of the research and development of instructional systems such as dial access, student response, FM radio, closed-circuit as well as community Cable TV, and personal self-instructional materials. In addition, the services provide photographic, sound recording and reproduction, design and production of conventional instructional materials; procurement, inventory, and maintenance of University multi-media equipment and materials; developing and maintaining a 16mm film library; and assisting in technical consultative services dealing with sensory materials to the administration, instructional staff, students, and community.

Although the media equipment and materials are primarily located in the academic departments, the service center with the exception of maintenance, is housed in the lower floor of Davis Hall. It is estimated that the University media inventory is worth well over a half million dollars.

Admission and Registration

ADMISSIONS POLICY

Any graduate of an accredited four-year high school or holder of GED equivalency diploma is qualified to apply for admission to IUP. Prospective students who have completed the third year of high school may file an application beginning the following July 1. Applications filed before completion of the junior year will be returned to the sender.

Requests for application papers and catalogs should be addressed to:

The Admissions Office
Indiana University of Pennsylvania
Indiana, Pennsylvania 15701

Applicants are approved on the basis of an examination of high school records, recommendations of high school principals and guidance counselors and scores made on the College Board Aptitude tests or the American College Testing Program. A University Admissions Committee establishes policy and approves or rejects applications.

Although the University does not require a specific number of high school credits in certain subject matter fields, it does strongly urge all applicants to take the usual college preparatory program in high school. Applicants should also take all available work offered in the field in which they plan to major.

Applicants are expected to name their major field upon application, but a change in major can be made during the freshman year without loss of credit. A change of major after the freshman year usually entails a loss of credit and results in a program of more than 4 years to satisfy graduation requirements.

APPLICATION FEE

A CHECK or MONEY ORDER (cash will not be accepted) for $10.00, payable to the Indiana University of Pennsylvania must accompany each application. This fee is nonrefundable and will be used to meet the cost of filing and processing applications.

The application form, the $10 application fee and the high school transcript must be mailed to: The Business Office, Indiana University of Pennsylvania, Indiana, Pennsylvania 15701.

FRESHMAN APPLICANTS

The Scholastic Aptitude Test

All persons expecting to apply for admission as a freshman student should plan to take the Scholastic Aptitude Test ("College Boards") on or before the November test date of the senior year of high school. The Admissions Committee recommends that the applicant first take the test in the spring of the junior year because the application, if complete, may receive early consideration in the fall of the senior year. If applicant has an excellent high school record and strong College Boards scores, the application for admission may be approved by November 1 of the senior year.

Whether or not the applicant takes the College Boards in the junior year, it is recommended that the College Boards also be taken no later than the November testing date of the senior year. The Admissions Committee gives the applicant the benefit of the highest total Board scores from all test dates. It is, therefore, in many instances, to the applicant's advantage to take the Boards in the senior year. However, the Committee will use the Boards completed in the junior year if the senior Boards are not available at the time Admissions decisions are being made.

The applicant should arrange to take the College Boards through the high school principal or guidance counselor, or, by writing to the College Entrance Examination Board, Box 592, Princeton, New Jersey 08540 for an information pamphlet and test application. IUP will accept the test battery of the American College Testing Program (ACT) in lieu of College Boards (SAT).

When the applicant receives the information and test application, he/she should fill out the test application and designate Indiana University of Pennsylvania as one of the schools he/she desires to receive a copy of the test scores. The test application is to be returned to the Princeton, New Jersey, address.

Freshman application deadline for Indiana Campus is Dec. 1; deadlines for the Branch Campuses varies from year to year.

The Admission Application

Applications for admission will be available after June 1 following the student's junior year of high school.

The applicant may fill out and submit the application and accompanying forms to the guidance counselor after July 1 of the summer following completion of the junior year. The deadline for applications for early consideration is October

1. The final freshman application deadline for the Indiana Campus is December 1. The freshman application deadline for the branch campuses varies from year to year. These deadlines apply for both semesters of the subsequent year. Limited housing and classroom facilities make the above closure date necessary.

The applicant should give the completed application form and the $10 application fee to his/her high school principal or guidance counselor for completion of the high school record portion of the application. The principal or counselor must then mail the complete packet of admissions materials to the Business Office, Indiana University of Pennsylvania, Indiana, Pennsylvania 15701.

The student's application is complete when the Admissions Committee receives the Junior College Board and/or Senior College Board or ACT test results, the high school record, the completed application form, and the application fee. In some cases the Committee may request additional information, such as a list of senior year subjects or a senior grade report.

Processing the Application

(1) The Admissions Committee reviews, with care and understanding, each of the several thousand applications that are submitted each year.

(2) Those persons who, in the Committee's judgment, satisfy the standards for early admission will receive notification by November 1 of their senior year. Decisions on most applications are deferred until later in the year. Final action on a completed application takes from 8 to 16 weeks, depending on the number of applications that must be processed. This delay is necessary if each application is to be examined carefully. Applicants who are not given early admission can expect a decision by January 15 of their senior year.

(3) The applicant who is admitted to an entering class is required to visit the campus on an appointed date to discuss his/her academic and career plans with the School Dean and other advisors. Choosing a major and possible career is an important problem for young men and women. It is hoped that early consultation with knowledgeable advisors will help the applicant make these crucial decisions. The date of this appointment for the orientation interview accompanies the notice of acceptance.

(4) A medical examination form is mailed to every applicant after the student is admitted. This form must be completed by the student. A set of instructions is mailed with the form.

(5) Attendance at the orientation interview and payment of the $15 orientation fee signifies the applicant's interest, but

NOT commitment, to attend Indiana University of Pennsylvania.

(6) Around April 1 a $100 advance payment is required of all incoming Freshmen. This advance payment will be credited to the applicant's housing charges and basic fees. Fifty percent of the $100 is refundable if applicant cancels admission before July 1. Exceptions to refund policy may be made by application to Admissions Committee in cases of unusual circumstances.

TRANSFER STUDENTS

A student who has been attending a community college or equivalent, college or university and wishes to transfer to IUP must submit an official transcript of all post-secondary educational work and a statement from his/her Dean certifying that he/she is in good academic standing and entitled to honorable separation from that institution. High School transcripts and college boards and/or ACT scores should also be submitted. All of these items should be mailed to the Dean of Admissions, Room 216E, Pratt Hall. A student who has been dismissed from another institution for other than academic reasons may petition the Dean of Admissions for acceptance to the University. The application deadlines for transfer students is January 15 for the Fall Semester and September 15 for the Spring Semester.

In evaluating transcripts for the transfer credits, considerable latitude is allowed to the dean of each individual school. The student must satisfy, however, all of the degree requirements falling into the categories of 1) university requirements; 2) school requirements; 3) department requirements.

University requirements — Since all students are obliged to fulfill a basic program in General Education consisting of 52 semester credit hours and there is a reasonable degree of flexibility in the General Education requirements, the deans will look to this area first for applicable credits for transference. Most introductory courses are generally equivalent, although at times reference must be made to the catalogues of other institutions in order to get a direct comparison with courses. It has been the policy of the University, that only grades with a C or higher letter will transfer to this institution.

The **residency requirements** of the University require that the last 30 credits in a student's curriculum must be earned by enrollment in courses at IUP. It should also be noted that for two year post-secondary educational institution or community college or equivalent graduates, a maximum of 60 credit hours are transferable to this institution for the purposes of fulfilling a specific program of study. The excess of credits, if any, may be transferred but cannot be used for fulfilling the minimum requirements for the degree.

The **articulation policy** as adopted by the Board of State College and University Directors on September 20, 1973, and transmitted by memorandum by Commissioner Ziegler on December 7, 1973, to the State College and University Presidents, and whereby the "D" grade obtained by two-year Associate Degree graduates of state-owned community colleges

should be treated by the senior institution in the same manner as the senior institution treats the "Ds" of its indigenous students is applicable.

PART-TIME STUDY

Any high school graduate is eligible for part-time study.

Students who plan to participate in the part-time study must obtain an application from the Admissions Office.

Applications and official transcripts from high school and other institutions attended must be submitted to the Admissions Office by August 15 for the Fall Semester and December 15 for the Spring Semester.

At the end of 15 credit hours of course work taken at IUP, a part-time student must have a 1.8 cumulative quality point to continue. At the end of 30 credit hours taken at IUP, a part-time student must have a cumulative quality point average of 2.0 to continue.

A part-time student MAY apply for degree candidacy after the completion of 15 credit hours of "C" work or better in academic subjects and maintenance of a cumulative quality point average of 2.0 or better. A part-time student MUST apply and be approved for degree candidacy by the time he has earned 30 credit hours. STUDENTS WHO HAVE NOT BEEN APPROVED FOR DEGREE CANDIDACY AT THE END OF 30 CREDIT HOURS OF PART-TIME WILL NOT BE PERMITTED TO CONTINUE AT THE UNIVERSITY.

Students who are degree candidates, who are in attendance and who plan to continue as part-time students, must file a part-time application with their School Dean each semester prior to the application deadline.

PROGRAM FOR HIGH SCHOOL JUNIORS

Honor students who have completed the junior year of high school with at least a B average in all college entrance subjects taken in the sophomore and junior years may preview University life and earn regular college credit by enrolling in 2 or 3 lower division courses. Students seeking admission to this program should write to the Registrar for further details.

CERTIFICATION STUDENTS

(Students who graduated with other than B.S. in Education degree)

A student who wishes to be admitted to complete requirements for an Instructional I certificate must submit an application and official transcript of college work showing degree attained. One semester on campus is a prerequisite to Student Teaching.

READMISSION POLICY FOR STUDENTS WHO WITHDRAW FROM THE UNIVERSITY VOLUNTARILY

A student who withdrew from the University on a voluntary basis for reasons of health, financial difficulty, etc., and who wishes to re-enter, must notify, in writing, the Dean of the School in which the student was enrolled at the time of his withdrawal AND the Office of the Dean of Students before April 1, if requesting readmission for that year's summer sessions or for the Fall semester (starting in September). Written requests must be made to the above-mentioned offices before November 1, if requesting readmission for the Spring semester starting in January.

PRE-SCHEDULING AND REGISTRATION

Students who are in full-time enrollment status are given the opportunity to pre-schedule for the next semester of attendance. Regularly enrolled students will pre-schedule and pre-register during the middle of the first semester for the second semester, and during the middle of the second semester for the following first semester, and in May for Pre-Summer session.

Prospective freshmen will prepare a program of studies with departmental advisors during interview dates preceding the semester of entrance.

All students will be billed and pay fees by mail for the first and second semesters of each year.

THE SUMMER SESSIONS

The Summer School is an integral part of the year's work. Students from other colleges, teachers in service, and students in regular attendance can secure, in the summer session, credits toward any certificate or toward graduation in any curriculum. The courses are planned primarily for those who are accelerating their work. An effort is made to meet all reasonable requests of teachers who are working toward higher certification or toward graduation.

All courses given in the summer session require the same amount of time and are granted the same credit as if taken during a regular semester. The Summer Bulletin will be mailed to anyone desiring more complete information regarding the courses to be offered.

Three sessions, two of 3 weeks and one of 6 weeks, are generally offered during the summer. The pre-session opens the first week of June. Main session begins the last of June and continues into the first of August. The post-session opens in early August and usually closes a week prior to the end of the month. It is thus possible for a student to secure three to twelve credits by attending summer school.

Address the Registrar for the Summer Sessions Bulletin indicating courses and activities of the Summer Session. Normally, Summer Sessions Bulletins are available after March 1.

Finances

BASIC FEES

The basic fee for all full-time in-state students is $400.00 per semester. This fee covers registration and the keeping of student records, use of the library, student welfare, health services (other than extra nurse and quarantine), and laboratory facilities. An additional $33.00 per credit will be charged for credits scheduled in excess of 18.

Out-of-state full-time students pay a basic fee of $750.00 per semester. An additional $60.00 per credit will be charged for credits in excess of 18.

The basic fee for part-time in-state students is $33.00 per semester hour. A part-time student is one taking 11 or fewer semester hours. See the sections of Admission and Registration and on University Policies for further information concerning part-time students.

The basic fee for part-time out-of-state students is $60.00 per semester hour.

An in-state student is defined as one who is a bona fide resident of and domiciled within the State of Pennsylvania for a reasonable period, not less than one year, immediately preceding his or her registration for a term or semester in any State-supported college or university in the State of Pennsylvania. A minor will generally be presumed to be a resident of the place of his parents' or guardian's domicile.

The establishment of domicile is primarily a matter of continued residence and intention. Generally, Pennsylvania domicile is considered to be established upon the completion of at least 12 months of continuous residence within the State at the time of registration for courses. For special cases, the University has a committee to review this matter. The University reserves the right to change its charges without notice.

OTHER FEES

ADVANCE REGISTRATION FEE — A non-refundable confirmation fee of $15 must be paid by each student accepted for enrollment. This confirmation fee will be used to cover the cost incurred by the University on the students' behalf during Freshman Orientation Day on campus and Fall Freshman Orientation.

HOUSING FEE — The housing fee for students living in commonwealth residence halls is $261.00 per semester and the meal fee is $210.00 per semester; thus students who reside in a commonwealth residence hall and have their meals in one of the University dining halls pay a total of $471.00 per semester. This includes room, meals in one of the University dining halls, and laundry of sheets and pillow cases. This applies only to full-time students, as part-time students are not permitted to live in University dormitories or residences.

See the section on Housing for details concerning housing policies at the University.

STUDENT ACTIVITY FEE — An activity fee is collected from all students and administered through the Student Cooperative Association under regulations approved by the Board of Trustees. This fee, of $30.00 per semester, covers the cost of student activities in athletics, lectures, entertainment, student publications, etc., and is payable in one sum for the semester at the time of registration. The Student Activity Fee is $11.00 for part-time students.

*LATE REGISTRATION FEE — Each student registering after the date officially set for registration is required to pay $5.00 for the first day and $2.00 each day thereafter to a maximum of $25.00 (except when permission for late registration has been secured in advance from the President because of illness or other unavoidable causes). The same regulation shall apply to approved intersemester payments.

*BAD CHECK CHARGE — Students making checks payable to "Indiana University of Pennsylvania" which are not acceptable to the bank because of insufficient funds will be charged $5.00 for each bad check in the amount of $.01 to $9.99 and $10.00 for bad checks written for $10.00 or more.

MILITARY FEE — An Activity Fee of $3.00 is required of ROTC Cadets to cover the cost of Cadet Corps functions. A uniform deposit fee of $10.00, which is refundable, is required of all cadets. These fees are payable directly to the Military Science Department.

*Effective 9/1/76

MED-TECH STUDENTS – During the clinical year a fee may be levied and collected by the participating hospital. The only other cost to these students shall be an administrative fee of not more than $100 to be collected by the University. The total fees charged by the hospital and the University shall not exceed the basic fee costs paid by other students for that same academic year. Room and board shall be the responsibility of the student. (Effective 1974–75 academic year.)

FINANCIAL DELINQUENCY POLICY – Registration is not in fact complete until a student pays his fee for such registration and the University reserves for itself the right to bar such a student from classes. When it has been determined during the course of a semester that a student's account has become delinquent from accrued charges, the Registrar's office will be notified of this delinquency and advised to refrain from reporting the student's grades and from issuance of any transcripts for that student's work until the delinquent account has been satisfied. Faculty members will continue to submit a grade for the financially delinquent student, however, only after the student has cleared his account will requests from and official reports to students be honored by the Registrar's office.

ART – In some art studio courses, fees are assessed each semester to defray the costs of special materials or to compensate a model.

MUSIC – A maintenance fee is assessed each student using University-owned instruments in the class instruments courses.

MUSIC – For each Applied Music course, the fee is $50.00 per half-hour of instruction. This charge is in addition to credit hour costs.

	In-State	Out-of-State
Basic Fee	$ 400.00	$ 750.00
Housing Fee	261.00	261.00
Meal Fee	210.00	210.00
Student Activity Fee	30.00	30.00
Books and Supplies (estimated)	100.00	100.00
Total	$1,001.00	$ 1,351.00

Miscellaneous and travel expenses would be in addition to the above.

ESTIMATED EXPENSES PER SEMESTER

	In-State	Out-of-State
Basic Fee	$400.00	$750.00
Housing Fee	231.00	231.00
Meal Fee	210.00	210.00
Student Activity Fee	30.00	30.00
Books and Supplies (estimated)	100.00	100.00
Total	$971.00	$1321.00

Miscellaneous and travel expenses would be in addition to the above.

SUMMER SESSIONS FEES

BASIC FEE — The basic fee for students enrolled for any of the regular summer sessions is $33.00 per semester hour.

The basic fee for undergraduate students who are not residents of Pennsylvania is $60.00 per semester hour.

HOUSING FEE — Summer session rates will be calculated based upon the number of weeks within the session. Weekly summer rates are $15.00 per week for residence hall room (includes laundry of sheets and pillow cases), and $15.00 per week for meals in one of the University dining halls.

See the section on Housing for housing-policy details at the University.

STUDENT ACTIVITY FEE — For the Main Summer Session, this fee is $10.50, and for the Pre- and Post-Sessions, $5.25, payable at time of registration.

SPECIAL FEES

INFIRMARY FEE — After three days in the University Infirmary, the University shall charge students who regularly eat in a University dining room an additional $1.00 for each day. Students who room at the University but do not eat in a University dining room shall pay $3.00 per day after the third day. Commuter students admitted to the infirmary shall pay board at the rate of $3.00 per day from the first day of admission. Service at the infirmary includes the regular nurse and regular medical service but does not include special nurse or special medical service.

*DEGREE FEE — A fee of $20.00 to cover the costs of a diploma and processing a graduate must be paid by each candidate for a degree.

TRANSCRIPT FEES — Applications for official transcripts must be made ONLY IN WRITING to the Registrar, either by U. S. Mail, or on forms available at the Transcript Window in Clark Hall. Such requests MUST include:

(1) Your full name and social security number as of your graduation or termination of enrollment at IUP. (Please note any name changes since graduation);

(2) Your present address;

(3) Whether you are requesting a transcript of your undergraduate and/or graduate work;

(4) Whether you graduated or if not, when you were enrolled;

(5) The full and clearly stated name(s) and address(es) of person(s) to whom you wish the transcript(s) sent;

*(6) There is a $1.00 charge for the first transcript and a $2.00 charge for each subsequent copy requested. (Checks or money

*Effective 9/1/76

orders should be made out to Indiana University of Pennsylvania).

Any requests which are not accompanied by the proper fees or information will be returned to the senders for inclusion of them. No transcript requests will be processed without the payment of transcript fees.

DAMAGE FEE — Students are responsible for damages, breakage, loss, or delayed return of University property.

BILLING AND PAYMENTS

All bills, including basic fee and housing fee, are payable as specified on the bill for at least the first nine weeks. Checks or money orders, in the exact amount of the account, should be made payable to the account designated on the bill. Book Store purchases are on a cash basis.

It is desired that payments for the entire semester be made in August for the first semester and in December for the second semester; however, the half-payment option may be exercised, if necessary.

Delinquent Accounts

Students will not be permitted to enroll for any semester nor to graduate, until all bills previously incurred have been paid; nor will credit be certified to any other institution or to the Department of Education until all overdue accounts have been paid. *A late payment fee of $5.00 for the first day and $2.00 for each day thereafter will be assessed for delinquent accounts up to a maximum of $25.00.

Undergraduate students desiring to leave school before the close of a semester must report to the Vice President of Student Affairs, and to the Business Office to settle all unpaid accounts. Graduate students report to the Graduate School Dean.

UNIVERSITY REFUND POLICY

The University must engage its faculty, assign Residence Hall space and arrange for meal contracts in advance of each term in accordance with the number of students who expressed their intent to be enrolled. When students withdraw from the University, they create vacancies which cannot be filled and financial commitments for salaries and services by the University must be honored. The refund policy at Indiana University of Pennsylvania applies to all students enrolled in credit producing programs at the University either full-time or part-time.

WITHDRAWALS FROM THE UNIVERSITY

Undergraduate students withdrawing from the University must process such withdrawal through the Student Affairs Office, Pratt Hall. The official withdrawal date will be established by the Student Affairs Office.

Students totally withdrawing from courses, Residence Halls and/or meal contracts upon receiving approval from the

*Effective 9/1/76

Student Affairs Office will forfeit a portion of the semester charges in accordance with the following schedule:

From the first day of registration to and including the fourteenth (14th) day following the opening of registration.	Forfeit one-quarter (¼) of the student's total semester charges or $50.00 whichever is greater.
From the 15th day following the opening of registration to the end of the sixth week of classes.	Forfeit one-half (½) of the student's total semester charges or $100.00 whichever is greater.
After the end of the sixth week of classes.	No refund will be granted and all semester fees forfeited.

REFUNDS

Refunds for students receiving financial assistance from scholarships and/or grants will be returned to the source of aid in an appropriate proportion, except in those cases in which a full refund to the source is required.

- No refunds will be made for summer session fees.
- No refunds will be granted unless formal withdrawal procedure has been initiated by the student or his family within 60 days of the date of withdrawal.
- No refund will be made for reduced credit loads.
- No refunds will be granted for students suspended or expelled by the University.
- Students who withdraw from the University Students Services (Residence Hall, meal contracts, etc.), but do not totally withdraw from the University will not be granted a refund.

The Student Affairs Office may make exceptions to these policies and grant pro-rated refunds when circumstances justify it. (Example: death, medical reasons, military obligation.)

FINANCIAL AID

The Financial Aid Office, located at 308 Pratt Hall, offers financial information and counseling to all students attending IUP. The types of financial assistance offered by the Financial Aid Office include student employment, loans, grants, and scholarships. In most cases, a Parents' Confidential Statement is used to determine eligibility for these programs.

EMPLOYMENT provides an opportunity for the student to earn money to help finance his educational expenses. Students may be employed on campus for up to twenty (20) hours per week. The University encourages students to participate in the on-campus student employment program since studies have demonstrated that part-time employment provides a positive stimulus to students in their adjustment to campus life and the maintenance of their academic averages. All campus employment is administered by the Financial Aid Office.

ROTC – Students participating in the Advanced ROTC Program, junior and senior years, are given a subsistence allowance of $100 per month for up to ten months per academic year. Additionally, the student will earn approximately $500 plus room and board, travel expense and medical and dental care for six weeks summer camp between the junior and senior years. This is approximately $2,400 for the two years.

LOANS are a form of aid for which repayment must begin upon termination of the student's University education. Interest rates normally range to 7%.

GRANTS are funds which carry no obligation for repayment. These funds are awarded to the student on the basis of financial need.

SCHOLARSHIPS are funds which carry no obligation for repayment. They are gifts awarded to the student on the basis of ability.

Federal aid administered through the University is available for both the regular academic year and the summer sessions. The application deadline for upperclassmen for these federal aid programs is normally March 15 for the following academic year. Freshmen may apply for aid upon acceptance to the University. For the summer sessions, the application deadline is May 1.

A brochure containing specific information about financial aid may be obtained at the Financial Aid Office. In addition, the director and assistant director of Financial Aid are available for student consultation from 1:00 to 4:00 p.m. Monday through Friday. The F.A. Office recommends that students with questions contact the office at 412 357-2218.

EMPLOYMENT

Campus part-time employment for students is available in the academic offices, residence halls, library, administrative offices, student co-op, and dining halls.

The University operates two student employment programs under which students may be employed:

FEDERAL – To be employed under the federal College Work-Study Program (CWSP), a student must show "financial need" as determined by the Parents' Confidential Statement. Application for this program is made in the Financial Aid Office. A student employed under the federal College Work-Study Program may work up to a maximum of twenty (20) hours per week when classes are in session and forty (40) hours per week when classes are not in session.

STATE – The State University Employment Program (UE) employs students. Under this program, a student may work up to fifteen (15) hours per week when classes are in session and twenty-five (25) hours per week when classes are not in session. No application is necessary for this program.

The Financial Aid Office offers placement assistance to students. When an employment opening is located, the potential employer indicates his intention of employing the student by giving him an employment assignment card. The

student takes this card to the Financial Aid Office and is then placed on the appropriate student payroll. There is no provision to have employment earnings deducted from student accounts. Students are paid directly by check every two weeks.

LOANS

Government-Sponsored Loan Programs

NATIONAL DIRECT STUDENT LOAN PROGRAM — The application for the National Direct Student Loan Program is the University financial aid application. This application is forwarded to freshmen along with their Admissions acceptance letter from the University. Currently enrolled students may secure an application for this program in the Financial Aid Office. The loan is awarded to students on the basis of financial need, as determined by the Parents' Confidential Statement. It is interest-free and nonrepayable until nine months after termination of education, at which time it becomes repayable at 3% interest with a minimum $30 payment per month and up to ten years to repay.

GUARANTY STUDENT LOAN PROGRAM — Applications for the Guaranty Student Loan are obtainable from lending institutions. These include banks, savings and loan associations, credit unions, etc. Through this program, undergraduate students may borrow up to $2000 per academic year ($2500 graduate). The loan is interest-free to eligible students until nine months after termination of education, and is then repayable directly to the lending institution at 7% simple interest.

University-Sponsored Loan Programs

The Financial Aid Office administers various loan funds in behalf of the University. Applications for and additional information on these programs are available to students in the Financial Aid Office. These loans are generally not available to students until after they are enrolled in and taking classes at the University. Listed below are various loan programs sponsored through the Financial Aid Office at Indiana University of Pennsylvania:

JENNIE E. ACKERMAN LOAN FUND — By action of the Executive Committee of IUP's Alumni Association, the Jennie E. Ackerman Loan Fund was established in 1962, by contributions from alumni and friends, in memory of Jennie E. Ackerman, who served as Supervisor of Student Teachers at IUP for many years. Loans are available to sophomores, juniors, and seniors who are maintaining satisfactory academic records at the University. The maximum outstanding amount extended to any one student cannot exceed $200. Interest is at the rate of 2% payable at maturity of the loan. Notes extended beyond that time will carry a 6% interest charge.

ELLA C. BENDIX LOAN FUND — This fund was established by students and faculty of the School of Home Economics in memory of Ella C. Bendix, who served as dean of the School of Home Economics. Worthy students with financial need enrolled in the School of Home Economics are eligible to receive a $250 loan for each year of a two-year period. Interest is 2% payable at maturity of the loan. Notes extended beyond that time carry a 6% interest

charge. Loan applications are available from the School of Home Economics.

COLETTE CROMER GERSHMAN LOAN FUND — Family and friends of Colette Cromer Gershman have established this fund in memory of Colette Cromer Gershman, a home economics education graduate. Students enrolled in the School of Home Economics are eligible for the loan. Interest is at the rate of 2%, payable at maturity of the loan. Notes extended beyond that time will carry a 6% interest charge. Apply to the Financial Aid Office.

SUZANNE MARSHALL HARTMAN LOAN FUND — A loan fund has been established at IUP by family and friends in memory of Suzanne M. Hartman, a graduate of Indiana in home economics. This fund is used to grant loans to deserving students in their sophomore, junior, and senior years. Interest is at the rate of 2%, payable at the maturity of the loan. Notes extended beyond that time will carry a 6% interest charge.

OLIVER W. HELMRICH MEMORIAL SCHOLARSHIP LOAN FUND — This fund has been established at IUP by the Helmrich family and friends in memory of Mr. Helmrich, a member of the Indiana faculty at the time of his death. In an effort to continue his desire to help young people in education, loans of up to $250 are available, according to need, to full-time seniors and graduate students enrolled in the School of Education. Notes are interest-free for one year, and carry a 6% interest charge if repayment is extended.

WILLIAM HENZELMANN MEMORIAL FUND — This loan is available to junior and senior students majoring in the department of German and Russian languages. The maximum loan is $250. Notes will be interest-free for one year, after which they will carry a 3% interest charge. The total repayment period for the loan will not exceed twenty-four months. This loan has been established in memory of William Henzelmann, a faculty member of the German/Russian languages department at IUP.

MACK LOAN AND SCHOLARSHIP FUND — A loan and scholarship fund has been established by members of the Mack family to be used for making loan and scholarship grants to worthy students with financial need. Preference is given to freshmen and sophomores who can give evidence of academic excellence, financial need, and promise as a future member of the teaching profession. At the present time, the maximum loan available is $200 per year. Interest is at the rate of 2%, payable at maturity of the loan. Notes extending beyond that time will carry a 6% interest charge.

ETHYL V. OXLEY — HELEN C. MERRIMAN LOAN FUND — Interest from money bequeathed to the School of Home Economics by these former faculty is available for student loans. Worthy students with financial need enrolled in the School of Home Economics are eligible to receive a $250 loan for each year of a two-year period. Interest is 2% payable at maturity of the loan. Notes extended beyond that time carry a 6% interest charge. Loan applications are available from the School of Home Economics.

RUSTY PREISENDEFER MEMORIAL LOAN FUND — This fund was established as a gift from Mrs. Suzanne Preisendefer Brickner in memory of her husband, who was killed in action in South Viet Nam. Preference in granting loans from this fund shall be given to members of the advanced ROTC and upperclassmen. Loans will be made up to a maximum of $400 per individual, with the first note carrying a 2% interest charge. Notes extending beyond that time will carry a 6% interest charge.

FLOSSIE WAGNER SANFORD STUDENT LOAN FUND — The Pennsylvania Federation of Women's Clubs has established a student loan fund in honor of Flossie Wagner Sanford, an alumna and former member of the faculty of Indiana. Loans from this fund are made by the Faculty Loan and Scholarship Committee to students who need financial assistance. Interest is at the rate of 2%, payable at the maturity of the loan. Notes extended beyond that time will carry a 6% interest charge.

GRANTS

BASIC EDUCATIONAL OPPORTUNITY GRANTS (BEOG) are available for eligible students. Applications for and information on deadlines for this program are available from the Financial Aid Office or high school counselors. All students are urged to apply for this grant.

PENNSYLVANIA HIGHER EDUCATION ASSISTANCE AGENCY GRANTS (PHEAA) are available for both the regular academic year and the summer sessions. Contact the Financial Aid Office to determine the application deadlines for the PHEAA Grant Program.

SUPPLEMENTAL EDUCATIONAL OPPORTUNITY GRANTS (SEOG) are available to eligible students who demonstrate financial need, as based on the Parents' Confidential Statement. The University financial aid application is used for this federally sponsored program.

SCHOLARSHIPS

The Financial Aid Office administers various scholarship programs in behalf of the University. These scholarships have been established by alumni and friends of the University to recognize outstanding students and assist them in financing their educational expenses. Listed below are the University scholarships which are administered through the Financial Aid Office:

AETNA LIFE AND CASUALTY SCHOLARSHIP — A $100 award is presented each semester to a Safety Management Major under this scholarship established by the Aetna Life and Casualty Insurance Company. The award is to be given for academic excellence with strong consideration for women and minority students. Applications should be made to the Chairman, Safety Sciences Department.

JEMIMA S. BOYD SCHOLARSHIP — The Jemima S. Boyd Scholarship Fund was established for an American born female student who intends to teach in Pennsylvania. The amount of this annual scholarship will be determined by the yearly interest from the savings account of the late Grace

Noble Lacock's estate. It is to be awarded at the discretion of the Financial Aid Committee in the amount felt to be necessary for the student.

BOARD OF TRUSTEES ACADEMIC SCHOLARSHIP — Awarded to the top students of each incoming freshman class, this is a full tuition scholarship for four years, without regard to financial need. Scholastic achievement is established by the computation of high school rank and College Entrance Examination Board scores.

BRAMAN MUSIC SCHOLARSHIP FUND — Interest, up to an amount of $100, will be granted as a single scholarship to an eligible prospective freshman music major, whose performing area is one of the following: violin, viola, cello or double bass. Selection of grantee is made by the string area music department faculty and awarded for the second semester. Applications and information are available from the music department.

M. VASHTI BURR MEMORIAL AWARD — The sum of $125 is awarded annually to that student of IUP who is deemed by the faculty to be most deserving, having in mind his or her economic need and the excellence of his or her industry and scholarship. This award is given through the generosity of Mr. William V. Whittington, Washington, D.C.

HOWARD B. BUTERBAUGH SCHOLARSHIP FUND — This scholarship money was a gift to the University from Dr. Howard Buterbaugh's estate. The scholarship is to be given to an Indiana County student.

CLARK SCHOLARSHIP — The Lieutenant Alpheus Bell Clark Memorial Scholarship was established by Mr. and Mrs. Steele Clark, Cherry Tree, Indiana County, in memory of their son. The sum of $100 is awarded each semester to that young man or woman, a senior in the University and a resident of Indiana County, who in the opinion of a committee chosen by the President, best qualifies for the honor in terms of academic ability, leadership, and service to the University, with preference going to a veteran, or a son or a daughter of a veteran.

JACK CROSSAN MEMORIAL SCHOLARSHIP FUND — Established in Jack Crossan's honor by fellow athletes, classmates and friends, this scholarship shall be awarded at the discretion and good judgment of the head basketball coach to a basketball player of good character and sound academic standing.

CHARLES DAVIS SCHOLARSHIP — This scholarship is awarded each year to a music major who has shown outstanding ability. The amount of the award will be determined by the funds available from Phi Mu Alpha, the professional music fraternity at IUP.

EXTENSION HOMEMAKER SCHOLARSHIP — Homemakers participating in the Home Economics Extension Program contribute funds annually for scholarships to be given to sophomores, juniors, or seniors who are majoring in home economics in several colleges in the state. Indiana is allotted several each year, to be awarded on the basis of 4-H experience, need, scholarship, and other outstanding characteristics. Each award is for $200 per year.

THOMAS V. FRAZIER MEMORIAL SCHOLARSHIP — A senior student interested in the theatre arts is the recipient of this award. The student may be a drama student or just active in off-stage roles. Financial need will be a consideration, with Mr. Robert Ensley and members of the Financial Aid Office selecting the recipient.

THE G. G. HILL AWARDS — Two awards of $50 each are given each spring to a male and to a female in business and distributive education. The recipients are selected on the basis of scholarship, responsibility, participation in community and university activities, personality and leadership. The scholarship is given by the business and distributive education department in honor of Mr. G. G. Hill, founder and former chairman of the department.

PATTI HURLEY SCHOLARSHIP — A four year scholarship of $150 per year is awarded to a female graduate of Indiana Area High School attending the University, based upon academic achievement, participation in school activities, and economic need. This memorial scholarship was established by the family and friends of Patti Hurley, a 1970 graduate of Indiana Area High School who was killed in an automobile accident two weeks after high school graduation and prior to entering college.

SALLY JOHNSON MEMORIAL SCHOLARSHIP FUND — This scholarship will go to a female junior student, based upon her outstanding athletic abilities. Information and applications available through the physical education department.

JOHNSTOWN SYMPHONY SCHOLARSHIP — These are scholarships for the study and expense of students studying string instruments. Amounts and number of scholarships are determined by the music department.

DOROTHY MARCY LONG MEMORIAL SCHOLARSHIP — This is a scholarship awarded annually to an entering freshman female on the basis of her high school academic performance and SAT scores. The award is valued at $200 for the student's first year at IUP. This award was established in memory of Dorothy Marcy Long by her family and members of the Indiana branch of the American Association of University Women.

ALAN P. MEWHA MEMORIAL FUND — Used for annual scholarships to students in the geography and regional planning department, the grant selection will be made by a three-member geography and regional planning scholarship committee. The scholarships are unrestricted as to use or purpose, and flexible in the amount awarded and time presented.

MORRIS SCHOLARSHIP — The Helen Wood Morris Scholarships were established by Lieutenant-Colonel L. M. Morris of Altoona, in memory of his wife, a graduate of the University. Sums of $175 each are awarded annually to students selected by a committee named by the University, one award to a sophomore, the other to a junior. Students chosen must be in the highest quarter of their class, must be in need of financial assistance, and must have demonstrated

worthiness in terms of character, personality, leadership, and American citizenship.

MARY MULDOWNEY SCHOLARSHIP – A scholarship in the amount of $100 for any junior or senior student majoring in music with an emphasis on voice, this award is governed in amount and number of scholarships given, by the music department.

MUSIC FACULTY SCHOLARSHIP – One scholarship is made available by the music faculty each year to a student enrolled in the music department. The scholarship committee makes the selection based on scholarship, need and participation. The scholarship is awarded for the second semester. Applications and information available through the music department.

JENNETTE NELSON MEMORIAL FUND – This fund shall be used for an Alpha Phi student selected by at least three members of the alumnae chapter, shall be unrestricted as to purpose for which granted, and flexible in the amount presented and time awarded.

TOM NORMAN SCHOLARSHIP – This money will be available to a soccer player in financial need. All disbursements will be controlled by the soccer coach, in the amounts he feels necessary.

OPERATION FRIENDSHIP SCHOLARSHIP – Two awards of $25 each and a certificate are given by Dr. Norah E. Zink, professor emeritus of the geography department of IUP, to foreign students who have made a significant contribution to cooperation and good feeling in the University and community during the University year. These awards are given during the spring.

ETHEL V. OXLEY/HELEN C. MERRIMAN SCHOLARSHIP Each year the Home Economics Alumni Association honors two former faculty members by awarding $100 scholarships to outstanding students in the School. Awards are based on evidence of such characteristics as dependability, initiative in worthwhile professional experiences, accepting responsibility, social sensitivity and sincerity in dealing with people, sense of values, personality and scholarship.

ALBERT PECHAN SCHOLARSHIP – This is a scholarship for a science major. The amount of the award depends on the money available in the scholarship fund. Selection of a recipient is made by the science department faculty.

LENORA PECHAN SCHOLARSHIP – The Lenora Pechan Scholarship was established by the late Dr. Albert R. Pechan, a former member of the Senate of the Commonwealth of Pennsylvania and of the Board of Trustees of IUP, to provide funds for students who are members of the Reserve Officer Training Corps and who have been outstanding students in the ROTC, and whose other academic work is satisfactory. First priority will be given to students from Armstrong County, selected by the officers of the ROTC and the Faculty Scholarship and Loan Committee.

PENNSYLVANIA FEDERATION OF WOMEN'S CLUBS SCHOLARSHIPS – At least four scholarships of $100 each are offered annually to students in the art education depart-

ment. These scholarships are provided by voluntary contributions from clubs to "Pennies for Art Fund," by the Pennsylvania Federation of Women's Clubs.

EDNA B. PIERCE MEMORIAL FUND — A junior ROTC student with a one-year commitment will be awarded a one-year scholarship. Also, an Indiana High School student, accepted at IUP, and enrolled in a teacher education curriculum, will be awarded a one-year scholarship.

PRESSER FOUNDATION SCHOLARSHIP — The Presser Foundation of Philadelphia awards two scholarships each year to music students at IUP. The amount varies from year to year. Interested music students should apply through the chairman of the music department.

QUOTA CLUB SCHOLARSHIP — The Quota Club of Indiana has established a scholarship of $100 per year, for senior girls in speech and hearing. Those interested in applying for this scholarship should contact the Director of Speech and Hearing for information.

SAFETY SCIENCE SCHOLARSHIP FUND — Awards given annually to those deserving students majoring in safety sciences.

SERVICE CLUB SCHOLARSHIP — The Kiwanis, Lions, and Rotary Clubs of Indiana have scholarship programs that provide financial aid for approximately 16 students per year at IUP. These scholarships are administered by the local service clubs, with assistance from the Financial Aid Office at the University.

SAM SMITH FOOTBALL SCHOLARSHIP FUND — the solicited funds are to be used for football scholarships. All the funds are to be distributed as scholarships in accordance with the rules and regulations of the University and its memberships.

GREGORY SPINELLI MEMORIAL FUND — This fund provides a meaningful award and recognition for students with exceptional promise and commitment to a career in the criminal justice system of the U.S. An award of $100 will be made annually to a second semester senior enrolled in the IUP criminology department.

STUDENT ART SCHOLARSHIP — Students of the department of art and art education contribute art works to be sold. Funds thus received permit awards of $50 to be made periodically. Applications for these awards are received and screened and awards made by a committee of art students. This award is confined to students of the art department.

STUDENT GOVERNMENT FOREIGN STUDENT SCHOLARSHIP — The Student Government Association grants four full scholarships annually to foreign students who have not previously been in the United States and who can complete their proposed program of study in one academic year. Applications should be submitted to the Foreign Student Advisor no later than March for the following year.

SYNTRON FOUNDATION SCHOLARSHIP — Through the Syntron Foundation of Homer City, four four-year scholarships are awarded annually to freshmen, each worth $800 per year. Presently, 19 scholarships are in effect each year.

Applications must be filed with the Director of Financial Aid by March 2 for the following year. Nine of these scholarships are identified as C. S. Weyandt Memorial Scholarships and the others are identified as J. A. Metz Memorial Scholarships.

J. M. UHLER MEMORIAL SCHOLARSHIP — In honor of a former President of the University and a past President of the Indiana Kiwanis Club, the Club awards a $100 per semester scholarship for four years to a recipient showing adequate scholastic progress. These scholarships are available to graduates of high schools within Indiana County. This fund is administered by the J. M. Uhler Scholastic Committee of the Indiana Kiwanis Club.

NORAH E. ZINK FOOTBALL AWARD — Dr. Norah E. Zink, professor emeritus of the geography department of IUP, has established an annual award of $25 for that member of the varsity football team whose academic average shows the greatest improvement over the fall semester.

ZUCCHELLI SCHOLARSHIP FUND — This $100 scholarship will be awarded to a female IUP student majoring in physical education. Information and applications available through the physical education department.

VOCATIONAL REHABILITATION ASSISTANCE

Students who have substantial physical or mental handicaps may receive educational benefits through the Bureau of Vocational Rehabilitation Assistance. In order to be eligible, students must satisfy the physical and financial requirements of the Agency. For further information regarding this assistance, the student should contact his local Bureau of Vocational Rehabilitation Assistance office or representative.

Academic Policies

CLASSIFICATION OF STUDENTS

The FULL-TIME undergraduate student is defined as a student who is enrolled in courses carrying 12 or more hours of credit in a Fall or Spring semester. Any student carrying less than 12 semester hours in a semester is a PART-TIME STUDENT. All part-time students wishing full-time status must apply for and obtain approval of such a change.

All undergraduate summer students are considered to be part-time for the duration of the summer session; this status is technical, however, and does not jeopardize *per se* the student's normal full-time status for Fall or Spring semesters if such status is held for those semesters.

For purposes of designating students by class, the following credit hour classification ranges are used:

Freshmen	28 semester hours or less
Sophomores	29—56 semester hours
Juniors	57—90 semester hours
Seniors	91 semester hours or more

Class designations are based on credits EARNED, rather than credits ATTEMPTED.

Persons holding a degree and working for a second baccalaureate degree may be classified as seniors.

GRADES AND QUALITY POINTS

GRADING SYSTEM — The following grades are used in reporting the standing of students at the end of each semester or summer term: A, excellent; B, good; C, average; D, passed; F, failed; I, incomplete; P, pass/fail (option). Regarding the option of pass/fail courses, if a student fails the course, he will be awarded an F and the terms of "failing" a course will prevail.

The grade of I is used to record work which, so far as covered, is of PASSING GRADE, but is incomplete because of PERSONAL ILLNESS or other UNAVOIDABLE REASON. It must be made up within 2 months after the student returns to the University. The grade of W is used to designate that the student has voluntarily withdrawn from a course within a specified period after the beginning of any regular semester. The W grade carries no credits or quality points for the course in which it is reported, but does appear on the student's record.

QUALITY POINTS — Quality points are assigned as follows: Grade A, 4 quality points per semester hour; B, 3 quality points per semester hour; C, 2 quality points per semester hour; D, 1 quality point per semester hour; F, no quality points.

Quality points are not counted on grades from other schools, and a student transferring from another school is held responsible for quality points only on work taken in this University.

CUMULATIVE QUALITY POINT AVERAGE is determined by multiplying the credit hours per course by the grade in

quality points received for that course, repeating this procedure for each course attempted, totaling the credit hour-quality points thus obtained, and dividing by the total number of credit hours attempted.

The semester hours for a course repeated after January 1, 1974, shall be counted only ONCE for all attempts; and it is this number of hours that will be used in quality point average (QPA) computations. (In the case where a course is repeated for a different number of hours of credit than when taken initially, the number of hours corresponding to the highest grade will be used in the QPA computations.)

The total quality points for all attempts of the repeated course will be the number assigned for the highest grade earned.

The QPA for the repeated course will be determined by dividing the number of quality points by the number of semester hours earned. Only courses with a D or F grade may be repeated and then only with the approval of the student's advisor. Only six repeat attempts may be made subsequent to the adoption of this policy during a Baccalaureate Degree Program.

GRADE REPORTS — About a week after each semester or summer session, a full grade report is mailed to each student at his home address. Parents do not receive reports, as it is assumed that University students are sufficiently mature and trustworthy to report the facts to their parents.

CRITERIA GOVERNING CONTINUANCE AT IUP

To be in good academic standing, an undergraduate student must maintain a 2.0 cumulative quality point average.

Freshmen entering the University any time after June 1, 1971, must have attained a 1.8 cumulative quality point average upon the completion of their first full-time academic year to remain at the University. A cumulative quality point average of 2.0 is required for an undergraduate's remaining years. To achieve the stipulated average, the Pre and Main Summer Sessions immediately following the year's Spring semester may be used. Students who fail to be in good academic standing at the end of any summer's Main Session will be dismissed from the University for at least one academic year.

All courses taken at IUP become a part of the student's permanent academic record. The record shall show hours attempted, hours earned, and quality points earned.

The academic standing of all students is computed on the basis of courses attempted at this University only. Credit is granted for work completed in other institutions in accordance with the stipulations set forth under "Admission and Registration."

READMISSION AFTER ACADEMIC DISMISSAL — Students who have been dismissed from the University for academic reasons and who desire to return after the dismissal

interval must file a formal application for readmission with the Dean of the School in which they were enrolled at the time of their dismissal.

In addition to filing the formal application, students must improve their academic average to meet the minimum requirements of the University which are 1.8 and 2.0 for freshmen and upperclassmen respectively. For exceptions, refer to Criteria Governing Continuance at the University – see page 32. Filing must be before April 1, if requesting readmission for the following summer sessions or for the Fall semester starting the following September. Filing must be before November 1, if requesting readmission for the following Spring semester.

Academic Violations

The following policies pertain to the processing of academic violations:

Minor Violations.

a) Cheating by those who give aid as well as receive aid in course and laboratory, except in a final examination. SANCTION: "F" in the course.

b) Evasion of University academic policies and procedures. MAXIMUM SANCTION: "W" in the course.

Major Violations. Those violations that may warrant action beyond receiving an "F" in the course:

a) Cheating on a final course or laboratory examination.

b) A second cheating violation.

c) Possessing an examination without the teacher's authority or prior knowledge.

d) Plagiarizing in any way.

e) Defacing library books or educational instruments or materials.

f) Purposeful evasion of University policies and procedures.

MAXIMUM SANCTION: expulsion.

MINOR VIOLATIONS PROCEDURE – A teacher may fail any student for cheating in his course. (The teacher should inform the student and file a report of the violation with the Academic Discipline Subcommittee of the Senate Academic Procedures Committee, and the Vice President of Academic Affairs, making the violation a matter of record in the Subcommittee's files.) The student may request a hearing (an opportunity to be heard) wherein the student and the teacher involved are heard by the chairman of the teacher's department. The heaviest sanction which can be imposed by the chairman is to uphold the "F" grade. The student may appeal the chairman's ruling to the Academic Discipline Subcommittee of the University Senate's Academic Procedures Committee, excluding the Academic Vice-President and the Dean of the School in which the violation occurred. The Academic Discipline Subcommittee is chaired by a student elected by the membership.

The Academic Discipline Subcommittee may accept the report and decision of the department chairman, reverse his decision and return the case to him for further hearings in keeping with suggestions that the Subcommittee may make, or reverse his decision and dismiss the case. It may also accept the decision of the chairman, but reduce the sanction imposed. It may NOT increase the sanction. Returning the case to the chairman is not DOUBLE JEOPARDY, since the first hearing is still not complete.

If the Academic Discipline Subcommittee accepts the report of the department chairman (whether it lowers the sanction or not), the matter is deemed final; except that either party may petition the chairman to reopen the matter upon the discovery of new evidence. The chairman will judge the sufficiency of the new evidence, and no appeal can be taken from his decision.

MAJOR VIOLATIONS PROCEDURE — A major violation is handled similar to a minor violation (in that the teacher should inform the student, and file a report of the violation with the Academic Discipline Subcommittee of the Senate Academic Procedures Committee, and the Vice President of

Academic Affairs, making the violation a matter of record in the Subcommittee's files), but it proceeds to a hearing directly by the Academic Discipline Subcommittee of the Senate Academic Procedures Committee, whose composition is as previously described. The hearing will follow the standards of procedure, where the accused should:

1) Receive ten (10) days written notice of the charges against him, and the sanctions which may be applied if the charges are proven;
2) Receive written notice of the date, time and place of the hearing (this should accompany the charges);
3) Be advised of the names of the witnesses who will appear against him and the substance of their testimony;
4) Have the right to present a defense and witnesses in his own behalf, and the right to cross-examine witnesses against him (the prosecutor, naturally, has the same right to cross-examine defense witnesses); and
5) Have access to a transcript of the proceedings and the findings of the board.

The accused may be assisted by an advisor of his choice, but legal counsel cannot be used on either side of a student-institutional hearing. The hearing may be governed by its own rules as to internal proceedings along lines of "fundamental fairness." The sanction imposed by this hearing board may be appealed to an appeal board consisting of the Vice-President for Academic Affairs, the Dean of the School in which the violation occurred, the Vice Chairman of the Faculty Senate and the President of Student Government. The appeal is governed by the principles previously outlined.

Disciplinary Dismissal or Suspension

Suspension or dismissals for disciplinary reasons are recommended to the President of the University by the Vice

President of Academic Affairs upon the recommendation of the University Judicial Board. The Board is composed of the Vice President of Student Affairs, five faculty members, and five student members.

ACADEMIC HONORS

Students with appropriate academic records may be graduated with one of the following distinctions:

Summa cum laude
3.75–4.00 cumulative quality point average

Magna cum laude
3.50–3.74 cumulative quality point average

Cum laude
3.25–3.49 cumulative quality point average

The Seventh Semester is used for this calculation. Honors are not granted for subsequent degrees.

DEAN'S LIST — To be eligible for the Dean's List, which is compiled after each semester, a student must be carrying a minimum of 12 semester hours and have a minimum quality point average of 3.25 (exclusive of P/F courses).

CLASS ATTENDANCE

Class attendance and class participation beyond mere physical presence are essential for maximum educational advantage and are strongly encouraged. Responsibility for all course material rests entirely with the student, whether or not he attends each class. Under no circumstances shall class attendance, *per se,* be used as a basis for awarding or altering a grade in a course; this applies to freshman through senior class levels. Course grade will be based on such factors as class preparation, class participation, skill development, effectiveness of oral presentations and/or written reports, quiz grades, and test and final examination scores. It is the prerogative of the instructor to administer unannounced quizzes as part of the student evaluation process, and to pass judgment on the merits of all cases involving late class submissions and class requirements missed by the students.

All students are required to attend class at the opening of the semester in order to stabilize enrollments and class rosters.

NORMAL SEMESTER HOUR LOADS

A normal semester hour load is 15–17 academic hours. A student who wishes to schedule more than 17 semester hours must obtain approval from the Dean of the School in which he is registered; approval will be predicated upon the student's demonstrated competences.

PASS-FAIL POLICY

A student may take courses on a pass-fail basis to a total of 15 semester hours throughout his University career. The student is limited to one pass-fail course in any given semester during his sophomore, junior, and senior years. All courses in THE STUDENT'S General Education program and

in HIS major and minor fields are excluded from this prerogative.

The student may declare his intent to choose pass-fail in a specific course no later than the end of the semester's discrete course withdrawal period. Instructors will NOT be notified of the identity of pass-fail students in their courses; identification will be handled by the Computer Center through an appropriate coded control.

A student shall be given academic credit WITHOUT QUALITY POINTS for a course he has taken pass-fail if he receives a passing mark in the course. The semester hours successfully completed under pass-fail ("passed"), within the overall 15 semester hour limitation, shall be recorded as counting towards the total semester hours earned for graduation, but not towards the semester hours attempted data used in calculation of the cumulative quality point average. However, if a student fails a pass/fail course he will receive the "F" grade, and the corresponding quality point average.

The summer sessions, collectively or in any combination, shall be considered a unit similar to a spring or fall semester for pass-fail purposes. Hence, a student is permitted to take only one course during the summer on a pass-fail basis.

The purpose of pass-fail is to permit a student to take an elective course in a field of his personal interest where he may be competing with major students in the department in which the course is offered. When scheduled, such a course shall be included in the student's normal course load for the semester.

CHANGES OF CURRICULUM

A student must indicate his desire to change to a new curriculum in the office of the Dean of the School in which the student is registered if the curriculum change desired is from one department to another within the same School (for example, change from a mathematics major to a political science major) or in the office of the Dean of the School to which the student wishes to transfer, if the curriculum change is from one School to another (for example, secondary education major to biology major). In either case, the student will complete an application form that is available in the Dean's office. Before seeking a curriculum change, it is advisable that the student consult with the chairmen of both his old and his "new" departments.

When a student changes Schools, the Dean of the School (or his agent) into which the transfer is sought will evaluate the student's credits before approving the transfer. A copy of the evaluation will be made available to the student and his new advisor if a change in curriculum is effected.

In cases involving veteran students, the Dean of the School into which transfer is sought (or his agent) shall give the veteran a statement of prospective approval and the effective date of the proposed changes. This statement shall also indicate the amount of extended training time the change of curriculum will entail and the amount of credit loss, if any. The veteran shall take this statement to the veteran's counselor at least one month prior to the effective date of the

change. No transfer of curriculum shall be made by veterans until VA approval has been assured.

DISCRETE COURSE WITHDRAWAL POLICY

During the fall and spring semesters, students are permitted to withdraw from a course with a grade of "W" within the first six weeks of the semester. Faculty are required to inform students of their standing in class prior to the end of this six-week period.

Upon the close of the described six-week withdrawal period, a student may withdraw from a course only with the approval of his advisor, department chairman, and School Dean (in that order), for such reasons as illness, accident, or extreme personal problems. Such withdrawal may occur no later than 1 week before the beginning of final examinations.

For all discrete course withdrawals, the student must complete a course withdrawal form, available in department offices. This form must be signed by both the student and the instructor.

If a student fails to complete the requirements for a course but has not formally processed a withdrawal as described above, and if the instructor does not receive a notice of withdrawal from the University, the instructor shall note in his course records the student's last attendance date and/or other student activity and assign an "F" for the course.

Discrete course withdrawals from summer session classes are subject to the regulations prescribed by the Director of Summer Sessions yearly.

WITHDRAWALS FROM THE UNIVERSITY

An undergraduate student who does not pre-register for the succeeding semester or, having pre-registered, does not appear for registration at the beginning of the succeeding semester, is considered to have withdrawn from the University. Thereafter he must apply for readmission as prescribed under "Admission and Registration."

Any undergraduate student withdrawing from the University during a semester or a summer session must secure an official Withdrawal Form from the office of the Vice President of Student Affairs, the Dean of Men, or the Dean of Women. The student will clear with the appropriate offices listed on the form, securing their signatures as evidence of clearance. The Withdrawal Form will be returned to the Office of the Vice President of Student Affairs, which will notify the appropriate School Dean of withdrawals approved, and official notification of withdrawal from specific classes will be sent to each instructor by the School Dean. No person shall be considered withdrawn from the University within a semester or summer session unless such notice is received.

ADVISORY PROGRAM

A group of selected faculty members act as freshman advisors for entering freshmen in their departments. In some

curricula the advisors continue with the same group of advisees from year to year. In other curricula the freshman advisors remain with their advisee group only for the student's first year; under this program, the student is then assigned an academic advisor for the remaining years through to his degree in his chosen field.

Faculty advisors counsel the students on academic achievement, dropping courses, changing curriculum, student activities, study schedules, and personal problems. The advisor receives a photostat copy of the student's permanent record at the beginning of the academic year, a copy of "D's" and "F's" at mid-term, copies of all letters pertaining to academic achievement sent to the student's home, and a copy of the report of the student's application for Junior standing.

SOPHOMORE SCREENING FOR JUNIOR STATUS APPROVAL

General Policy at Indiana University of Pennsylvania permits each School to determine its own scheme for evaluating the development and progress of its major students. However, each School is expected to employ some effective procedure for such evaluation.

Several of the Schools use a procedure called "Sophomore Screening for Junior Status Approval," with the following required:

All students (in such a School) enrolled in their fourth semester or who will complete 57 semester hours ATTEMPTED by the end of the current semester must apply for Junior Status Approval by filling out an application form by the deadline date designated and announced.

All students should check with their faculty advisors to determine which Schools use "Junior Status" screening procedure and the criteria for Junior Status Approval.

HEALTH AND PHYSICAL EDUCATION SPECIAL REGULATIONS

Credits in health and physical education are required of undergraduate students in the General Education segment of the University curriculum or are part of an option for students in that segment. The University requirement in physical education may be altered after consultation with the department chairperson in health and physical education, who will act upon the recommendation of the University physician and the Dean, School of Health Services.

Physically incapacitated students must obtain a medical waiver from or through the University physician. This procedure should be repeated each semester except in cases of permanent disability. The waiver form should be filed with the chairman of the health and physical education department involved. Such students may elect to participate in specially arranged adaptive physical education courses or defer the University requirement until such time as the disability dissolves. These regulations do not refer to tempo-

rary illness of short duration; such cases are managed by the individual instructor.

RESERVE OFFICERS TRAINING CORPS

The United States Army has a unit of the Reserve Officers Training Corps at the University. In fulfilling the University's General Education requirement, students have the option of taking military science (Reserve Officers Training Corps) for 2 credit hours for two semesters OR of taking a combination of health for 2 credit hours and physical education for two semesters of 1 credit for each semester. The ROTC option can be completed in two semesters, whereas the health and physical education option is not usually completed in less than three semesters. The ROTC option offers the student a 1-D Selective Service Classification for the period of participation. Completion of the 4-credit ROTC option has no effect on future Selective Service classifications, nor does it in any way obligate the student for later military service.

Upon graduation from the regular University course and successful completion of the Advanced Course ROTC Program, the student will receive a Second Lieutenant's commission in the U. S. Army Reserve. To make this program possible, deferments from the draft are issued to students successfully meeting the University and ROTC requirements. Upon graduation, the former student serves on active duty for a period not to exceed 2 years, if called by the Secretary of the Army. This enables the student to obtain his University degree and then fulfill his obligation to his country.

Under special conditions, deferments to obtain advanced degrees are granted by the Army to ROTC students who wish to do graduate work prior to going on active duty. Additional information on this subject can be obtained at Pierce Hall.

UNIVERSITY SENATE

Purpose

The purpose of the University Senate is to provide a formal means through which the student body, faculty and the administration, working as a unified group, shall share in the governance of the University through the establishment of University policy.

Nothing relating to the organization and administration of the University Senate shall be construed so as to limit the authority of the Board of Trustees or the President of the University with respect to the administration of the University as prescribed by law.

Composition and Elective Procedures

The University Senate shall consist of a number of faculty double the number of departments of the University, an administrative segment one-third the size of the faculty segment, and a student segment one-half the size of the faculty segment. Faculty and administrative members must hold full-time contracts at the time of election or appointment, and students must be full-time and in good standing. "Student" refers to both the undergraduate and graduate

student bodies. The student segment shall consist of ten times as many undergraduate students as graduate students, each delegation to be elected by its representative student body. Undergraduate students shall be elected under the auspices of the Student Government Association, and graduate students through elections arranged by their comparable body. In both cases, the officiating body shall call for and accept such voluntary nominations for election to the Senate as shall be made to it.

Student members of the University Senate serve on most of the Senate Committees.

COURSE NUMBERS AND ABBREVIATIONS

COURSE NUMBERS — Courses for Freshmen are numbered in the 100's, for the sophomores in the 200's, for juniors in the 300's, and for seniors in the 400's.

Required courses are numbered from 1 to 50 and elective courses are numbered from 51 to 100, within each 100.

DEPARTMENTAL COURSE ABBREVIATIONS. The following departmental abbreviations are used to identify courses referred to in the Undergraduate Catalog:

AH Art History
AL Allied Health
AM Applied Music
AN Anthropology
AR Art
AS Arts and Science
AT Art Education
AY Astronomy
BI Biology
BU Business
BE Business Education
BM Business Management
CH Chemistry
CO Computer Science
CS Consumer Services
CE Counselor Education
CR Criminology
DE Distributive Education
EC Economics
ED Education
EP Educational Psychology
EL Elementary Education
EM Elementary Math
ES Elementary Science
EN English
FL Foreign Language
FN Food and Nutrition
FE Foundations of Education
FR French
GE Geography
GK Greek
GL Geology
GS Geoscience
GM German
GR Graduate

HP Health & PE
HI History
HE Home Economics
HO Home Economics Education
IS International Studies
LA Latin
LR Learning Resources
LI Linguistics
MI Marine Sciences
MA Mathematics
MS Military Science
MU Music
AM Music – Applied
NU Nursing
PH Philosophy
PY Physics
PS Political Science
PO Portuguese
PC Psychology
PN Public School Nursing
RU Russian
SA Safety Science
SC Science
SS Social Science
SO Sociology
SP Spanish
SE Special Education
SH Speech and Hearing
SR Special Rehabilitation
ST Student Personnel Services

STUDENTS' ACADEMIC GRIEVANCES

If a student feels that he has been treated unfairly by any instructor (this will refer principally to grading policy, but very occasionally may include genuine disagreement in class participation), he must try to resolve the problem first with the chairman of the department in question. If the student is not satisfied with the solution offered by the department chairman, he should confer with the Dean of the School in which he is enrolled.

Student Life and Services

The Student Affairs Staff of the University provides those developmental services to students that will support the best learning climate possible. It is the purpose of these student personnel services to guide the student toward optimum personal development. Beginning with the Freshman Week Orientation Program, the student is invited to participate in the activities and the residence life of the University. An attempt is made to provide the student with a maximum opportunity for self-regulation during his years as a citizen of the University community. The Student Affairs Staff, together with student groups and other faculty members, endeavors to create a rich environment which will extend the classroom experience and will involve students in making meaningful decisions.

ORIENTATION

At the beginning of each semester separate orientation programs are held for all new students entering the University: freshmen, transfer students and graduate students. The purpose behind these programs is to provide academic advisement for new students, to help new students become acquainted with each other and to help new students become familiar with the University and the services available to them. All orientation programs are planned by the New Student Orientation Committee, a representative body of all major student organizations on campus. Orientation leaders are selected on a volunteer basis from the student body and are specially trained to help conduct all programs.

HOUSING

Housing available to students includes:

University owned residence halls
Fraternity houses
Private apartments and houses
Privately owned residence halls
Accommodations at home or with relatives

IT IS THE POLICY OF INDIANA UNIVERSITY OF PENNSYLVANIA'S HOUSING OFFICE TO OFFER FULL, EQUAL AND NON DISCRIMINATORY ASSISTANCE TO ALL STUDENTS WITHOUT REGARD TO THEIR RACE, COLOR, RELIGION, NATIONALITY OR SEX. All facilities listed with the Housing Office must adhere to this commitment. It is the student's responsibility to initiate and to complete the procedures necessary to secure the housing desired. All students are required to complete a local address card at arena registration each semester whether living in a University residence hall or a privately owned facility.

University Residence Halls

Indiana University of Pennsylvania is a heavily residential campus. Its 13 residence halls are divided, on a geographical

basis, into four "quads". Each quad is supervised by a full time, professional faculty member with a background in student personnel or counseling. In addition, each residence hall has a full time Residence Manager to handle the management functions of the building as well as an undergraduate Head Hall Counselor who supervises a team of undergraduate Hall Counselors. Hall Counselors are responsible for counseling students, planning programs, carrying out administrative tasks, and maintaining order among the approximately thirty students living in their individual section of the residence hall.

Since college students spend about 85% of their time outside of the classroom and resident students spend a great deal of this time in residence halls, IUP residence halls are seen as much more than a place to sleep. They are rapidly becoming out of classroom learning environments wherein educational, social, recreational, and community service programs are being planned and conducted with the express purpose of facilitating personal growth on the part of the individual residents.

Because residence hall living is seen as a positive educational experience, freshmen are encouraged to live in residence halls unless they are commuting from home. In an effort to make residence hall living more responsive to individual needs, the University offers two separate life styles: single sex and co-ed. Students are encouraged to consider these options carefully and to select the one in which they would feel most comfortable.

Generally, the policy of the University is to encourage the development of positive social behavior and good study habits rather than to exercise close supervision of the individual. Residents should have a well-defined personal recognition of their individual responsibility to protect the dignity, rights, and feelings of fellow students. In residence hall living, students are considered to be adults who are responsible for their own behavior. Within the confines of Federal, State and local laws, the faculty and administration delegate much of the governing authority of residence halls to the Residence Hall Association which in turn establishes most of the governing policies for the entire residence hall system. All students are encouraged to become actively involved in RHA.

Student accommodations are based on double occupancy. The housing fee includes the service of drapes and bed linens. One pillow case and two sheets are issued at the beginning of occupancy, each week thereafter one pillowcase and one sheet may be exchanged for laundered items. Furnishings include a single bed, desk, study chair, mirror, dresser, pillow, mattress, mattress cover and telephone. Students should bring their own blankets, bedspreads, towels, study lamps, etc.

All IUP residence halls are recently constructed, modern buildings. Each is equipped with study lounges, recreational equipment, laundry facilities and locked mailboxes. In addition, sewing machines, duplication machines, desk calculators and other specialized equipment are located in each Quad for student use. In order to provide security, all residence

halls are locked at midnight Sunday through Thursday and at 2:00 a.m. Friday and Saturday nights. Each student has a card key for his/her building which provides entry after the closing hour.

New students will be admitted to the residence halls on the day prior to their registration each semester. Food service will be available not later than the evening meal prior to their registration date. Students are not permitted to occupy their rooms earlier than the established date for their arrival on campus. Before students will be issued a room key or meal card, housing and food service charges must be paid to the Accounts Receivable Office in the Administrative Annex according to the deadlines established for each semester.

Application for Housing

Incoming freshmen who wish to live in University residence halls must complete a residence hall application on their orientation day. Resident students will be billed for a $50 advance housing deposit as well as a $50 advance registration fee. Both will be credited toward total University fees.

Residence hall applications will be available for returning students during the pre-registration period for each semester. An advance deposit of $50 is required to reserve a room for the fall semester. This deposit is credited toward total University fees. Any student wishing to cancel his/her reservation is entitled to a refund of $25 if written notification is received by the Housing Office no later than July 1, otherwise the entire deposit is forfeited.

Readmitted students and those transferring from other Universities should contact the Housing Office directly for housing applications and/or information.

Dining Room Policy

All students residing in University residence halls must take their meals in University dining halls. Non-resident students may take meals in the dining halls by making arrangements with the Housing Office. All such arrangements are on a semester basis. There are three meal plans offered at the University:

Plan A – 21 meals per week
Plan B – 15 meals Monday through Friday
Plan C – 15 meals over 7 days

The above plans are for one breakfast, one lunch and one dinner each day. Guests may take meals in any of the dining rooms at the current transient rate.

Insurance for Personal Belongings

Students are encouraged to carry insurance covering the loss or theft of money or property while residing in a residence hall. Check with your parents to determine whether their Homeowners Policy will cover you while you're at college. If not, riders can be attached.

Student Room Refrigerators

Student room refrigerators are rented on a one or two semester basis out of the Dean of Student Life office. These refrigerators are UL approved, 2.1 cubic foot refrigerators requiring a

maximum of .5 amps. Privately owned refrigerators which meet these specifications may be used in University residence halls and are assessed a fee of $1.00 per semester for electricity.

Student Room Telephones

Each student room on campus has a telephone which is part of the University Centrex System. With Centrex telephones, it is possible to dial all telephones on campus, dial direct station to station local and long distance calls, receive directly dialed incoming calls, and transfer incoming calls from one telephone on campus to another. In addition, the Centrex telephone system serves as an important educational tool. Students may dial a specific code given to them by their professor which connects them with the Dial Access Retrieval System in Learning Resources thus enabling them to hear required listening assignments in the comfort of their own residence hall room.

Telephone bills are mailed directly to residence hall rooms each month. Long distance calls and telegram charges only appear on the bill. Both occupants of a room are responsible for all charges made to their telephone. Payment is made directly to the Bell Telephone Company.

AUTOMOBILES

Every student, faculty or staff member who parks an automobile in campus parking areas must register their auto each year with the Campus Police. A charge of $1 per decal per year is levied. Resident students are not permitted to park on campus without a decal. Decals are issued only for the following reasons: 1. student teaching; 2. medical reasons; 3. work requirements. A decal for these students may be obtained through writing to the Parking Authority Review Board. A LIST OF PARKING RULES AND REGULATIONS MAY BE OBTAINED AT THE CAMPUS SECURITY OFFICE, JOHN SUTTON HALL.

FACILITIES FOR COMMUTING STUDENTS

Accommodations for commuting students are provided in John Sutton Hall. Commuting students may obtain lockers in the basement of John Sutton Hall. Library facilities provide pleasant study conditions for commuter students and several other lounges in John Sutton and the Student Union are always available for commuter student use. Commuter mail is held at the University Post Office window and mail boxes are available for commuter students upon request. Commuter students may purchase lunches in Foster Dining Hall, Folger Dining Hall, Foster Dining Hall Coffee Shop, or the Student Union Coffee Shop. In addition, several private eating establishments are close to the University campus.

STUDENT PERSONNEL SERVICES

Student Assistance and Information Center

The University Information Office, established in August, 1970, serves as an information center and communication link

for areas of student concern. Located in Pratt 203, the center has an open door policy. AN ATTEMPT IS MADE TO HELP STUDENTS WITH ANY PROBLEMS THEY MAY ENCOUNTER ON AND OFF CAMPUS. The goals are to assist students in areas of concern – sometimes by referral to appropriate offices, to combat problems of bureaucracy and to create an awareness of the individual on the part of the University. The four basic concepts that the office functions under entail investigation, recommendation, general information, and encouragement. Though not always able to give direct answers or correct situations, the Center does have capabilities of finding an answer and attracting the attention of appropriate segments on campus.

HEALTH SERVICES

Pechan Health Center is a new, completely equipped infirmary located on the corner of Pratt Drive and Maple Street. This two-story structure is thoroughly equipped for all routine work. Registered nurses are on duty 24 hours a day, seven days a week. Medical service is provided by four fill-time University physicians. Twenty-seven beds are available where resident students may have three days of free hospitalization. A fee of $1.00 is charged for each day thereafter. Commuting students are given free dispensary service and may be admitted to the Infirmary for emergency hospitalization for which a fee of $3.00 per day from the first day is charged. Free dispensary service is available to students in the Campus Demonstration School. When antibiotics or other special drugs are prescribed, these will be billed to the student by the Health Center. Serious illnesses and accidents are transferred to the local hospital or to hospitals in the students' home town.

SPECIAL CLINICS

Three clinics at the University offer diagnostic testing and remedial or improvement service or instruction in the following areas:

PSYCHOLOGICAL CLINIC – diagnosis of academic and behavior problems and personal, vocational, and educational counseling.

READING CLINIC – diagnosis and remedial instruction for reading and spelling disabilities and instruction for the improvement of present skills.

SPEECH AND HEARING CLINIC – diagnosis of speech problems, hearing tests and evaluations, and a regular program of therapy.

These services are made available without charge to students regularly enrolled at the University to give the necessary assistance to alleviate deficiencies which would interfere with successful performance and progress in the University and in future work. Students who need help in any of the areas suggested above are encouraged to use the facilities provided for them and may of their own initiative come to any clinic

for help; or they may be referred by any faculty member or University official.

INSURANCE

The Indiana University of Pennsylvania Board of Trustees instituted mandatory student accident and health insurance at the University effective September, 1963. It is realized, however, that some of the freshmen class students are covered by hospitalization policies of their parents. Where this is the case and additional coverage under the IUP student insurance plan is not desired, a waiver card can be submitted at the time of registration. However, the reasonable premium required for this service makes it highly desirable for every student to participate. Full information concerning this insurance coverage is mailed to enrolled students with their registration material.

CAREER SERVICES

Career Services are available to students who are graduating, students who are enrolled to obtain teacher certification, students who have been accepted as candidates for degrees in the Graduate School and alumni. Occupational counseling is provided to students of all class levels as well as alumni.

In addition to career counseling the primary functions of the office are to make credentials available to prospective employers, arrange for campus interviews, prepare a current file of job opportunities, maintain an extensive library of occupational information, make follow-up studies of the graduates, conduct group counseling and orientation meetings and provide general assistance in the career planning and job seeking process. Sets of credentials are prepared at the request of interested students or alumni.

A credit course is available to juniors and seniors in career planning and development.

The Officer of Career Services also receives and makes available to graduates and undergraduates information concerning summer employment.

Positions are not guaranteed by the University but Indiana's record of placement is one of the very best in Pennsylvania.

SELECTIVE SERVICE AND MILITARY AFFAIRS COUNSELOR

The Selective Service Counselor submits all required reports to Selective Service boards for undergraduate men when appropriate. He also serves as a liaison person for military affairs and officer programs.

VETERANS — An individual who served with the Armed Forces for more than 180 days after January 31, 1955, is eligible for the G.I. Bill (PL 89-358), providing he meets certain other requirements. A prospective student should contact the Veterans Counselor and submit to him the Veteran's Application for Program of Education.

Individuals eligible for the G.I. Bill should report to the office of the Veterans Counselor prior to registration for a semester

or for summer sessions, to be entered or continued in training for Veterans Administration benefits purposes.

No veteran receiving G.I. benefits shall be permitted to change curriculum without clearance from the Veterans Counselor. All veterans must maintain normal class progression and report any change in course load to the Veterans Counselor.

Any undergraduate receiving benefits from the Veterans Administration must carry at least 12 credit hours during a regular semester in order to be considered a full-time student by the Veterans Administration. The minimum full-time requirement for a graduate student is nine credit hours.

VETERANS' CHILDREN — Children of a deceased veteran whose death was due to service-related causes may be eligible for educational assistance from the Federal Government under Public Law 634 (Dependents Educational Assistance Act). Immediately upon acceptance to Indiana, men and women who qualify for such assistance should contact the Veterans Counselor to determine their eligibility. They should report to the Veterans Counselor before registering at the University if the Veterans Administration has approved their training under Public Law 634.

GUIDELINES FOR STUDENT CONDUCT

The University has committed itself through a formal vote of the IUP Faculty Senate to the joint statement on Student Rights and Freedoms as the approved guideline for all student rules, regulations, and procedures at Indiana. The purpose of these general regulations is to spell out some of the actions that place the community in jeopardy and may therefore result in a student's suspension or expulsion from the University. In general, these regulations are concerned with conduct on campus but students must recognize that the University exists within a larger community which has its own laws and standards of behavior, and that membership in the University community confers no exemption from those laws and standards. Whether on or off campus, the student is under the jurisdiction of the city, state, and national governments. Off-campus misconduct will not normally be the basis for disciplinary action by the University; however, when such conduct imperils the integrity and values of the academic community, these actions may also result in disciplinary action on campus.

MAIL

The University Post Office is located in the west wing of Foster Dining Hall, at the corner of Eleventh and Grant Streets. The mail is delivered to offices and residence halls from this location. As it is a branch of the Indiana Post Office, the University Post Office provides most postal facilities, including boxes for commuter students.

SERVICE FACILITIES

Student Union

The Student Union, built by the students through their Activity Fee, offers many facilities for the University family.

Students may relax or watch television in the lounge, buy a snack or a complete meal at the coffee shop, listen to their choice of records in the music center, or play cards, billiards, or table tennis.

Bookstore

The Co-op Store is located near the Student Union Building. The store stocks a complete line of all needed textbooks, supplies, paper-back books and other requirements for class use. In addition, the shopper will find an extensive selection of records, college wear, stationery, jewelry, sundries and souvenir items.

The store is operated on a competitive retail basis, with all profits from operations reverting to the Student Cooperative Association for use in supporting student activities.

University Lodge

The University Lodge plays an important part in the recreational and instructional life of the University. Owned by students and faculty, this 280 acres of wooded hillside, with its rustic lodge, three picnic shelters, rope ski tow, toboggan run and nature and hiking trails offers opportunities for classes to study nature and conservation and also is in demand for picnics, meetings, and winter sports. The Lodge itself will accommodate groups of 300 to 400 students.

The Student Cooperative Association is currently planning a major expansion of facilities of the University Lodge. Already completed is a 2-acre pond which was constructed for fire protection and future recreational use.

During the winter sports season, ski equipment can be checked out for use by "ID" card holders.

CO-CURRICULAR ACTIVITIES

As participating members of the IUP Community students have a responsible role in the governance of the campus. Since a valuable part of education lies in participation in groups where experience in leadership, social and community responsibility, intellectual curiosity and religious interests can be met, voluntary participation in a number of varied organizations is available and encouraged. In addition, students are encouraged to initiate and support any new groups which may reflect their interests. Faculty, selected by the students, act as advisors.

GOVERNANCE

Student Government Association

The Student Government Association, composed of student representatives from all areas of the University, is the only organization representing all students and elected by students. The president and vice-president of the Student Government Association are chosen in a campus-wide election, other members are elected at large at a ratio of one representative for each 200 students.

Student Government Association is active in making recommendations to the Administration for the improvement of student welfare and is also active in promoting the general welfare of the University and good community relationships.

SGA provides an opportunity for discussion of student problems, brings the student body, faculty and administration closer together through a frank understanding of mutual problems, and promotes the observance of policies that will lead to improvement of University campus life.

Commonwealth Association of Students

IUP is a member of the Commonwealth Association of Students (CAS), the statewide student voice of the fourteen state-owned institutions. Headed by an Executive Director in Harrisburg, the Association is set up to serve the special interests of the state colleges and university through the collection of student opinions and their dissemination to the proper state or federal agencies, as well as to actively promote the passage or defeat of legislation deemed relevant to the students and public higher education in Pennsylvania. CAS also acts as a liaison between students and the state government, the faculty union or any organization or individual that affects the state colleges and university.

At IUP, the CAS local chapter operates independently of the Student Government Association. The local chapter coordinator, student government president, and minority representative are each accorded voting privileges at the statewide meetings held bi-monthly. Any full-time or part-time undergraduate or graduate at IUP is welcome and encouraged to join as well as actively participate in the Association's activities, either on the state or local level.

University Senate

Students also are elected to the University Senate and have full voting rights, together with Faculty and Administrative members. Most of the Senate Committees include students as voting members. Any full-time student, may be elected to the Senate. This is the body which shares in the governance of the University through the establishment of University policy.

Student Cooperative Association

The Student Cooperative Association plays an extremely broad role in the extracurricular life of the University. All students and faculty members belong to the Association. Almost all campus-wide activities outside of the instructional program are sponsored wholly or in part by the Association.

The activity fee is the chief source of income for the Association's activities. The student's "ID" card will admit him free of charge to all University social, cultural, and athletic activities. Other income for the Association comes from the Co-op Store profits, athletics income and income from all other events sponsored by the Association.

Facilities under the governance of the Student Cooperative Association are the Student Union, the Co-op Store and the University Lodge.

Residence Hall Association

Residence Hall Association (RHA) is made up of all students living in University residence halls. The executive body of RHA is composed of elected representatives from each residence hall. The purpose of RHA is to provide educational, social, and community service programs for residents;

to collect information on various aspects of residence hall life; and to assist in formulating housing policies and procedures.

ACTIVITIES

Activities Board

The Activities Board is the student organization that sponsors a majority of the major co-curricular activities on campus. It is financed by the Student Cooperative Association. The Board is advised by the Director of Student Activities and works in close cooperation with the staff of the Student Union. An active program of lectures, dances, concerts, coffee houses, and films are presented throughout the year.

Artist Series

The Student Cooperative Association, in cooperation with the office of the Director of Student Activities, sponsors a series of cultural programs in the areas of dance, music, and theatre each year. The programs are selected by a Student-Faculty Committee. Attendance at these programs is free to all students.

STUDENT PUBLICATIONS

THE INDIANA PENN, the campus newspaper is published three times a week, Monday, Wednesday and Friday, by students who wish to gain writing experience. Interested students are advised to attend the organizational meeting, which is held early each semester.

The positions of editors and news editors are filled by Student Government action upon recommendation of a

student-faculty committee. The co-editors select their own staff. There are 10 paid staff positions.

Applications for editor and news editor may be obtained from the PENN advisor. Only those students with at least one semester experience on the PENN staff are eligible to apply for the two top positions.

THE OAK is the University yearbook, a pictorial and written review of the year's activities. Subscriptions may be purchased during the Fall Semester. The Daily Bulletin will carry notices of the subscription drive.

Applications for staff positions may be obtained from the Oak advisor. From these applications, a committee, composed of students and faculty, selects the staff members. The ten paid positions on the staff are subject to the approval of the Student Government.

SMOKE SIGNALS is an entering freshman newsletter which is sent to all incoming freshman approximately four times prior to their arrival on campus. Contents are geared to areas of concern to new entrants. The staff is open to anyone who is interested. Contact the Student Affairs Office in Room 203 Pratt Hall.

The UNIVERSITY DIRECTORY is distributed early in the fall term to students and faculty. It contains a directory of all properly registered students, or staff, and of University offices.

THE EYE, a student handbook, is distributed annually to all students, free of charge. It includes rules and regulations, the extra-curricular program, and general information of interest to students.

ATHLETICS

Herman Sledzik, Director; Ruth Podbielski, Associate Director

Men's athletic teams of the University compete under the rules of the National Collegiate Athletic Association and the National Association of Intercollegiate Athletics and hold membership in these organizations as well as Eastern College Athletic Conference and Pennsylvania Conference.

In each season of the academic year, the University sponsors at least three sports simultaneously. A total of eleven varsity sports are offered during the school year.

Sports offered in the fall include cross country, football and soccer. Basketball, wrestling, swimming and rifle take the stage in the winter, and track and field, golf, baseball, and tennis hold the spotlight in the spring.

Along with varsity squads in the respective sports, football, basketball, wrestling and baseball, teams compete on the freshman or junior varsity level.

Women's athletic teams of the University compete under the rules of the National Division of Girl's and Women's Sports and the Association of Intercollegiate Athletics for Women. Varsity teams compete in tennis, volleyball, field hockey,

basketball, swimming, gymnastics and fencing.

Intramurals — Royden P. Grove, Director

A well organized and varied program of intramural sports and athletic activities is conducted for men, for women and on a coeducational basis.

In addition to participation in seasonal team and individual sports in organized intramural tournaments, men and women may participate in the Contemporary Dance Performance Group and the IUPisces, a synchronized swimming group.

Intramural handbooks are available. Contact the Intramural Director, Memorial Field House, for this information.

RELIGIOUS LIFE

The religious life of students is cared for through the activities of some twelve independent organizations. Three of these, the Newman Club, the United Campus Ministry, and the Lutheran Center, maintain private meeting facilities near the campus. Others affiliate with and meet in local churches. For those groups too small to arrange their own needs, the University undertakes to provide limited facilities and faculty advisement.

All students are urged to attend their choice of the many community places of worship and to participate in the area, district, and national conferences which provide opportunity for the study of religious problems.

STUDENT ORGANIZATIONS

There are more than 150 active student organizations at Indiana University of Pennsylvania. In order to be recognized as an official University organization, it must be approved by the Student Government Association, Committee F-1 and the University Senate. Through participation in organizations, a student can extend his classroom experiences into relevant programs which will improve his leadership ability, enhance his academic achievement and develop his social skills. Listed below are the organizations presently recognized on the Indiana campus.

Honorary Societies

Alpha Kappa Delta, honorary sociology
Alpha Psi Omega, honorary dramatic
Chi Beta Phi, honorary science
Delta Omicron, honorary music for women
Delta Phi Alpha, honorary German
Gamma Rho Tau, honorary business management
Gamma Theta Upsilon, honorary geography
Iota Mu Colony, student affiliate of Sigma Delta Phi honorary for Spanish
Kappa Delta Pi, honorary education
Kappa Mu Epsilon, honorary mathematics
Kappa Omicron Phi, honorary home economics
Lambda Alpha Epsilon, honorary criminology
Omicron Delta Epsilon, honorary economics
Phi Alpha Theta, honorary history
Phi Mu Alpha, honorary music for men
Pi Delta Phi, honorary French
Pi Gamma Mu, honorary social studies
Pi Omega Pi, honorary business
Psi Chi, honorary psychology

Communications and Publications

Oak — Yearbook
Penn — Student Newspaper
WIUP-FM and CIUP-TV

Departmental Clubs

American Chemical Society (Student Affiliate)
Anthropology Club of IUP
Art Club
Associates for Student Development
Association of Business System Analysts
Computer Science Club of IUP
Counselor Education Graduate Association
Criminology Club
Economics Club
El Circulo Espanol
Elementary Education Club
English Club
French Club
Geo-Science Club
IUP American Society of Safety Engineers
IUP College Chaper of the Pennsylvania School Food Service Association
IUP Council for Exceptional Children
IUP Home Economics Association
IUP Student Chaper of National Art Education Association
Marketing Club of IUP
Mathematics Club
McKeldin Philosophy Society
Music Educators Club
National Student Speech and Hearing Association
Nurses Club
Phi Beta Lambda, business education
Physics Club
Psychology Club
Society for Educational Reconstruction
Society for the Advancement of Management
Sociology Club of IUP
Student Accounting Association of IUP
Student Pennsylvania State Education Association
Physical Education Majors Club

General Clubs

Activities Board
Alpha Phi Omega, Service Fraternity for Men
Association of United States Army
Black Student League
Campus Council on Consumer Affairs
Campus 4-H Club
Campus Girl Scouts
Circle K Club of IUP
Collegiate Rainbow for Girls
Commonwealth Association of Students at IUP
Foreign Students Club
Gamma Sigma Sigma, Service Sorority for Women
Graduate Student Council
Homphiles of IUP
Indiana University Color Slide Society
Indiana University of Pennsylvania Film Club
Interfraternity Council
International Relations Club
IUP Black Gospel Choir
IUP Organization of Married Students
IUP Veterans Club
I-Uppers
L'Espirit De Bleu
Makhno Brigade
Masquers
Middle Eastern Council on Cultural Affairs
Miss IUP Scholarship Pageant Committee
Off-Campus Student League
Operation Up-Lift
Panhellenic Council
Pershing Rifles
Politics Club of IUP
Republican Club
Residence Hall Association
Rotaract Club of Indiana, Pennsylvania
Senior Class
Student Government Association
Student Music Organization of IUP
Students International Meditation Society
The Tribe
Young Democrats

Religious Organizations

Campus Christian Fellowship
Chi Alpha
Hillel Foundation
IUP Fellowship of Christian Athletes
IUP Overcomers
Lutheran Student Movement
Newman Student Association
Orthodox Christian Fellowship
Saltmyne Coffee House
Student Religious Liberals
United Campus Ministry

Social Fraternities and Sororities

There are 27 social sororities and fraternities affiliated with IUP. Their membership totals approximately 1200 men and women. These Greek organizations have broadened their usual base of activities to include charitable projects, and each year, they raise many thousands of dollars for worthy causes. They continue to pursue social, cultural and intellectual activities as well.

Sororities

Alpha Delta Pi
Alpha Gamma Delta
Alpha Omicron Pi
Alpha Phi
Alpha Sigma Alpha
Alpha Sigma Tau
Alpha Xi Delta
Delta Zeta
Kappa Delta
Phi Mu
Sigma Kappa
Sigma Sigma Sigma
Zeta Tau Alpha

Fraternities

Delta Sigma Phi
Delta Tau
Delta Tau Delta
Kappa Delta Rho
Kappa Sigma
Lambda Chi Alpha
Phi Kappa Psi
Phi Kappa Theta
Phi Sigma Kappa
Sigma Chi
Sigma Nu
Sigma Tau Gamma
Theta Chi
Theta Xi

Sports and Recreation Clubs

Cheerleaders
Chess Team
Concert Dance Group
Equestrian Club
IUP Bowling Club
IUP Handball Club
IUP Ice Hockey Club
IUP'isces Synchronized Team
IUP Intramurals Program
IUP Judo Club
IUP Karate Club
IUP Orienteering Club
IUP Outing Club
IUP Sailing Club
IUP Scuba Diving Club
IUP Thunderbolts Drill Team
IUP Water Polo Club
Rugby Club
X Athletic Club

Requirements For Graduation

Undergraduate students at Indiana University of Pennsylvania may pursue programs of study in any one of the six undergraduate schools: the School of Arts and Sciences; the School of Business; the School of Education; the School of Fine Arts; the School of Health Services; or the School of Home Economics. A student may earn the degree of Bachelor of Arts, Bachelor of Science, Bachelor of Fine Arts, or Bachelor of Science in Education. To do so, the student must satisfy all of the degree requirements, which fall into three categories: 1) University requirements; 2) · School requirements; 3) Department requirements. Requirements of the latter two categories may be found under the School and the Department in which the student is pursuing a program of study.

University requirements for graduation in all curricula consist of General Education requirements, residency requirements, and the credit hour and cumulative quality point average requirements.

GENERAL EDUCATION

All students are obligated to fulfill a basic program in General Education consisting of 52 semester credit hours. Different Schools and sometimes Departments within Schools may have specific variations as to how these General Education requirements are to be met.

The primary objective of General Education is to develop those understandings, attitudes, values and social skills that will enable the student to enjoy a life that is satisfying to himself as an individual and that will enable him to play a constructive role in his community and in society, without respect to his professional vocational interest or activity.

The courses in the program will be distributed throughout the 4 years of University study, but the basic or introductory courses should be concentrated in the first 2 years of the student's program.

REQUIRED COURSES (20 credits)

ALL students (unless exempted) are REQUIRED to have credit for:

English 101, 102, AND 201 — *Eng I, II, and III	10 cr.
Art 101 — Introduction to Art OR Music 101 — Introduction to Music OR English 103 — Introduction to Theater	3 cr.
Mathematics (any course approved by the student's School Dean)	3 cr.
**Health and Physical Education 101 — (Personal and Community Health)	2 cr.
**Health and Physical Education 110 through 172 (coeducational physical activities unless otherwise noted — elect two courses, one credit EACH.)	2 cr.
OR	
Military Science 101 AND 102	4 cr.

These 20 credit hours are mandatory. The remaining 32 credit hours to fulfill the General Education requirement must be selected as follows: 6 to 9 credits in Humanities, 8 to 11 credits in Natural Sciences and Mathematics, and 15 credits in Social Sciences. A student may take 6 credits in the Humanities if he takes 11 credits in the Natural Sciences and Mathematics, or 9 credits in the Humanities if he takes 8 credits in the Natural Sciences. Elections must be made from the following:

*All English majors, in both the School of Arts and Sciences and the School of Education, MUST replace English 201 with English 202.

**Veterans are given four credits towards these requirements. Verification of service must be established.

HUMANITIES (6 to 9 credits)

Foreign Language (2 courses)*	6 cr.
AR 115 — Art of Western Man to 1200 AD	3 cr.
AR 116 — Western Art: Ren. to Baroque	3 cr.
EN 371 — The English Bible as Literature	3 cr.
EN 358 — Modern American Fiction	3 cr.
EN 359 — Black American Literature	3 cr.
EN 346 — Contemporary American And British Poetry	3 cr.
HI 101 — History of Civilization I	3 cr.
MU 301 — Music History I	3 cr.
PH 100 — Introduction to Religion	3 cr.
PH 101 — Methods of Critical Thinking	3 cr.
PH 110 — World Religions	3 cr.
PH 120 — Introduction to Philosophy	3 cr.
PH 221 — Logic	3 cr.
PH 222 — Ethics	3 cr.
PH 223 — Philosophy of Art	3 cr.

*NOTE: Students in the School of Arts and Sciences must take one year of an intermediate-level foreign language. Students in the School of Education may elect one year of a foreign language, any appropriate level, or two courses from the above list.

Exception: English Education majors must take the intermediate level sequence of a foreign language.

NATURAL SCIENCES AND MATHEMATICS

(8 to 11 credits)

Laboratory science (any sequence from the following):		8 cr.
BI 103-104	General Biology I and II	4 cr. each
CH 111-112	General Chemistry I and II	4 cr. each
CH 113-114	Concepts in Chemistry	4 cr. each
GS 111-112	Solar System and Stellar Astronomy	3 cr. each
GS 121-122	General Geology I and II with accompanying Labs (GS 131-132)	4 cr. each
PY 111-112	Physics I and II with accompanying labs (PY 121-122)	8 cr. total
PY 131-132	Physics I and II — with accompanying labs (PY 141-142)	8 cr. total
SC 105-106	Physical Science I and II	8 cr.

NOTE: Geoscience 111-112 are a 6 semester hour pair which should be taken in the 111-112 sequence. If these are elected for fulfilling the General Education requirement for a Geoscience major, another science course of at least 3 semester hours must also be taken. Science 105-106, Physical Science I and II, may be taken with either course first; one course is in no way prerequisite to the other.

GENERAL ELECTIVES

In addition to the basic courses already listed, general electives in mathematics and the natural sciences may be selected, as advised in the student's major department, from any of the following for which there is no prerequisite or for which the student has taken the prerequisites:

BI 261 — Ornithology
BI 262 — Entomology
BI 271 — Evolution
BI 272 — Conservatism of plant and animal resources
BI 110 & 120 — Biol-Ecology
CO 200 — Intro to Computers
CO 110 — Intro to Computer Science
GS 110 — General Astronomy
GS 120 — Geology of Pa.
GS 213 — Navigation
GS 330 — Paleontology
GS 321 — Mineralogy
GS 371 — Meteorology I
GS 361 — Oceanography I
MA 011 — Elementary Functions
MA 013-015 — Calculus for the Natural and Social Sciences
MA 362 — Probability and Statistics
PY 222 — Mechanics I
PY 231 — Electronics
PY 242 — Optics
PY 342 — Thermal and Statistical Phys.
PY 472 — Nuclear Phys.
*SC 111 — Science in Modern Civilization
**SC 401 — Growth of Science and Its Concepts I
**SC 402 — Growth of Science and Its Concepts II

*Listed under Chemistry
**Listed under Physics

SOCIAL SCIENCE (15 cr.)

Each student will elect 5 courses from the following:

AN 110 — Introduction to Anthropology	3 cr.
CR 101 — General Administration of Justice	3 cr.
EC 101 — Basic Economics	3 cr.
EC 121 — Principles of Economics I	3 cr.
GE 101 — World Geography	3 cr.
HI 102 — History of Civilization II	3 cr.
HI 104 — History of U.S. & Pa. II	3 cr.
PS 101 — World Politics	3 cr.
PS 111 — American Politics	3 cr.
PC 101 — General Psychology	3 cr.
SO 151 — Principles of Sociology	3 cr.
SS 101 — Contemporary Social Science	3 cr.

NOTE: School of Education students are required to take History 104 and Psychology 101. The other three courses are up to the student's choice.

RESIDENCY

The last 30 credits in a student's curriculum MUST be earned by enrollment in courses at Indiana University of Pennsylvania.

CREDIT HOUR AND CUMULATIVE QUALITY POINT AVERAGE

Every student must complete a minimum of 124 semester hours to graduate, including 52 hours in General Education (all on a passing basis), and must have a 2.0 ("C" grade) cumulative quality point average and a 2.0 ("C") average in his major field.*

ADVANCED PLACEMENT AND EXEMPTION EXAMINATIONS

Courses taken by students prior to admission to college under the Advanced Placement Program of the College Entrance Examination Board may be recognized by the award of college credit or by exemption from required subjects. Those who earn a grade of 3, 4, or 5 in the Advanced Placement Examination will be granted exemption from the course and/or credit toward the number of credit hours required for graduation.

For students who have had other unusual opportunities of instruction or have advanced in a given field, an opportunity to gain exemption from a course is afforded through exemption examinations, given at the discretion of each department. Departments offering such options will publicize their availability campus-wide every year. A student who passes an exemption examination will be exempt from taking that course in his academic program.

When a student receives CREDIT for a course by examination, the credit will be applied to his graduation requirements just as though the course had been taken. If a student

*Effective for members of the 1971 Freshman class onward and for transfer students admitted from Spring of 1971 onward.

is granted EXEMPTION ONLY from a course, he will be permitted to take a free elective in place of that course.

This enables the student to further specialize, to correct weaknesses outside his major field, to build his knowledge in an ancillary area, or to introduce himself to an entirely different area.

Courses for which credit and/or exemption are awarded by examination will not be used in the determination of quality point averages.

APPLICATION FOR GRADUATION

It is the student's responsibility to complete an application for graduation form in the office of the Dean of his School, early in the term at the close of which he expects to graduate. Students are responsible for knowing and fulfilling the requirements for graduation in their degree program.

Certification for graduation is not final until approved by the Dean of the School in which the student is enrolled.

Students who expect to graduate at the end of the summer sessions must complete all requirements for graduation by the conclusion of the Main Summer Session, UNLESS PRIOR EXCEPTION be made by the student's School Dean. Diplomas will not be issued until all bills and obligations have been satisfied, including the degree fee.

SECOND BACCALAUREATE DEGREE

In order to receive a second or subsequent baccalaureate degree, a graduate of Indiana University of Pennsylvania or of another accredited college or university must earn at least 30 additional credits by enrollment in courses at Indiana University of Pennsylvania which are approved by the Department and the School in which the subsequent degree is earned. In addition, the student must meet any other degree requirements of the Department and the School in which the degree is earned.

Honors are not granted for subsequent degrees.

THREE-YEAR DEGREE PROGRAM

There is no special significance to the 4-year baccalaureate program; more or less time could be used effectively in pursuit of the Bachelor's degree. For those who wish to graduate in 3 years, the accelerative features outlined below indicate how this could be accomplished:

Six semesters at 17 credits each	102 cr.
Exemption and credit for English 101	4 cr.
Advanced Placement Examination Program	
College Level Examination Program	
Departmental Examinations for exemption and credit	18 cr.
Summer Session Enrollment(s)	
Minimum requirement for degree	124 cr.

Any student who desires an accelerated program should consult BOTH his advisor AND the Dean of his School concerning the opportunities for credit by examination and the total credit hours and courses required for graduation.

INDIANA
C

The School of Arts and Sciences

DR. FRANCIS G. MC GOVERN, DEAN; ASSOC. DEANS: DR. CHARLES R. FUGET, DR. SUZANNE H. HUDSON

The School of Arts and Sciences has as its objective the providing of a liberal education — which Mark VanDoren defines as "nothing less than a complete one" — as the basis of the student's preparation for a satisfying career. In a dynamic society such as America's, a broad liberal education accompanying career preparation is virtually a necessity. The School maintains an emphasis upon fundamental understanding and application of the basic principles of our cultural heritage, combined with development of a thorough background of knowledge in the student's specific area of interest. It seeks to promote in the student critical and objective thinking, analytical skill, and a keen awareness of his responsibilities to society as it prepares him for his chosen field.

DIVISIONS

The School's programs of study are the product of its departmental faculties, organized in three divisions: Humanities, Natural Sciences and Mathematics, and Social Sciences. It supports service courses available to non-Arts and Sciences students, as well as its own degree and non-degree programs. All Arts and Sciences students must major in a School discipline; double-majors and minors are also available, as are interdisciplinary and pre-professional programs.

Humanities Division

English
French
German
Journalism
Russian
Spanish
Speech and Theater
Philosophy

Pre-Professional Programs

Dental School Preparation
Law School Preparation
Medical School Preparation
Theological School Preparation
Veterinarian School Preparation

Related Professional Fields:

Preparation for:

Chiropractic
Pharmacy or Pharmacology
Optometry
Osteopathy
Podiatry

Natural Sciences and Mathematics Division

Biology
Chemistry
Computer Science
Geoscience
Geoscience
Geology
Applied Mathematics
Mathematics
Natural Sciences
Physics

Social Sciences Division

Criminology
Economics
Geography
History
International Studies
Government and Public Service
Political Science
Psychology
Regional Planning
Sociology Anthropology

DEGREES

The departments of biology, chemistry, mathematics, and physics offer work leading to either a Bachelor of Science or a Bachelor of Arts degree, depending upon the specific course program pursued. The Bachelor of Science degree is offered in computer science, geoscience and in regional planning. All other programs of the School, those in the departments of criminology, economics, English, geography, history, the languages, philosophy, political science, psychology, and sociology-anthropology lead to the Bachelor of Arts degree.

Several Arts and Sciences departments sponsor Master of Arts or Master of Science degrees in the University's Graduate School, and the English department offers a graduate program leading to the Doctor of Philosophy degree. Information on these programs should be obtained from the Graduate School.

Degree Requirements

In addition to the University's General Education requirements, all students seeking a baccalaureate degree in the School of Arts and Sciences must complete the requirements for a major as established by the department through which they wish to specialize. Statements of these requirements, and for minoring in a specific field, appear in the department sections that follow. A double major or minor may encompass a discipline outside as well as within the School, but should be opted only with adviser approval. As a general principle, there is considerable latitude in course choice for Arts and Sciences majors; for specifically required courses, substitutions in any program must have the written approval of the student's department chairman or the School Dean. The intermediate series foreign language requirement (a description follows) applies without exception to all Arts and Sciences degrees.

THE FOREIGN LANGUAGE REQUIREMENT. A candidate for a Bachelor of Arts or Bachelor of Science degree must demonstrate a proficiency in a foreign language equivalent to that attained upon completion of 2 years of college instruction in that language. This requirement may be met by:

a) Successful completion of two semesters at the second-year level in a specific foreign language; or

b) Successful completion of an exemption or credit examination in lieu of the above, the examination administered by the appropriate Indiana foreign languages department.

Students with strong high school foreign language preparation should schedule the intermediate series sequence in the first semester; for instance, French III (see page 110.) Students with less preparation should schedule the introductory level series, for instance, French I. Students uncertain as to the strength of their preparation should seek the counsel of the appropriate foreign languages department chairman. Because of its sequential nature, all students should begin their foreign language course work in their first semester.

The foreign language requirement may be met through work in French, German, Greek, Latin, Russian, or Spanish.

Any foreign student, registered as such at Indiana, whose acquired native language is other than English and who demonstrates an acceptable proficiency in English, is exempt from the foreign language requirement for an Arts and Sciences degree, if the department he is majoring in does not require a specific language not thus covered.

SPECIAL CREDIT PROGRAMS

School majors may be interested in programs such as the Marine Science Consortium or the various Foreign Study Tours. Credits obtained through such arrangements normally are applicable toward an Arts and Sciences degree. Also of interest are the School's credit-awarding Indiana at Valladolid (Spain) and Indiana at Duisburg (Germany) programs, as well as the Summer Study in Jalapa (Mexico) Program.

The Marine Science Consortium was established in 1968 for the purpose of promoting teaching and research in the marine sciences. The participating institutions include Indiana University of Pennsylvania and thirteen other colleges and universities. Although no separate major in the Marine Sciences exists, elective courses may be taken and credited toward undergraduate curricula in Biology, Geology, Geography, and Earth Science. The Marine Science Consortium offers five 3-week sessions during the summer at the NASA-Wallops Island Station, Virginia. Normally, several research cruises are offered each summer.

Students must register for credit and pay credit fees to a participating institution. Room and board fees are paid to the Consortium. Applications for all summer sessions must be submitted to the institutional Director by April 1. Students must be accepted by the Consortium before registering at a participating institution. See page 130 for a listing of Marine Science Consortium courses. For brochure, summer bulletin, and application forms, contact either:

Dr. J. G. Humphreys, Director
Biology Department,
or
Prof. Paul Prince, Assoc. Director
Geoscience Department

India: A Nation in Transition – In this special program two weeks on campus are devoted to lectures, individual research, group activity, film, and personal experiences designed to acquaint the student with India.

Seven weeks of study in India are related to economics, culture, geography, politics, and personal experience in a non-western culture. These weeks include living for a week with individual Indian families, industrial development visits, experiences related to non-western religion with visits to a limited number of shrines, examination of contributions of Indian culture, and a look at Indian urbanization.

Self-Instruction in Critical Languages, FL 485 – A course intended for the student whose professional or personal interest leads him to the study of an uncommonly-taught

language, and whose motivation and aptitude are sufficiently high to undertake this as independent study. Native drill-masters will assist the student in three weekly tutorial sessions, and specialists from other institutions will test orally the achievement of each student at the conclusion of the course. Among the twenty African, Asiatic and European languages available in this program, Japanese, Chinese, Arabic, Hebrew, and Portuguese are of considerable interest today. For further information, contact the chairperson, Department of Romance and Classical Languages.

Indiana at Valladolid — For the past 13 years the School's Department of Romance and Classical Languages has sponsored a semester of study at the University of Valladolid, Spain. For details and brochure, please contact the chairperson, Department of Romance and Classical Languages.

Indiana At Duisburg — The University has an exchange program with the University of Duisburg, West Germany open to upper level students both in Arts and Sciences and in Education, as well as to other students having specific interest in a foreign study experience and evidencing sufficient preparation in the German language. The program involves a direct exchange of students with the University in Duisburg. Fifteen scholarships involving free tuition are available annually. For further information, contact the Chairperson Department of German — Russian.

Indiana — Mexico Summer Program — The Spanish Section of the Department of Romance and Classical Languages cooperates with the Pennsylvania Consortium for International Education (PCIE) in sponsoring a program of study in Spanish language and Latin American related areas in Mexico. The program is located at Jalapa in Veracruz, and the cost of the program includes transportation, complete room and board, tuition, etc. The student may earn up to six hours of graduate or undergraduate credit depending on the courses he elects. For a detailed brochure, please contact the chairperson, Romance and Classical Languages Department.

See page 127—128 for listing of additional foreign studies.

ACADEMIC CONCENTRATION IN HOSPITAL AND HEALTH CARE ADMINISTRATION

The hospital administrator's unique contribution to the health of the public is his expertise in the organization of the many components of the health care delivery system in general and the hospital in particular. The hospital is clearly one of the most complex institutions in our society. The hospital administrator occupies a difficult management position and an important one if the public is to be properly served.

Today, thirty-eight universities in the United States, Canada and Puerto Rico offer graduate degrees in health and hospital administration. A baccalaureate degree from an accredited college or university is the primary prerequisite for admission. Graduate programs leading to a master's degree in health and hospital administration consist of one or two years of full-time academic study and may include a period of up to one year of administrative residency in a hospital or

other health-related organization under the preceptorship of an administrator. Courses in hospital administration remain the foundation of the curricula.

Undergraduate preparation for a career in health and hospital care administration can be obtained through several Arts and Sciences courses.

For additional information see page 219 under School of Health Services.

PRE-PROFESSIONAL PROGRAMS

The School of Arts and Sciences offers five pre-professional programs that prepare the student for application to a professional school; pre-dental, pre-legal, pre-medical, pre-theological and pre-veterinary medicine. The last four are grounded in an Arts and Sciences department(s) – pre-legal in Economics, English, History, Philosophy or Political Science; pre-medical and pre-veterinary in Biology; and pre-theological in Philosophy. Pre-dental is grounded in the Natural Science Division. In addition, the School offers a major in the Natural Sciences for those students whose goal is pharmacy or pharmacology, optometry, osteopathy, podiatry, or a similar professional field. All programs are so designed that, should work at a professional school not ensue, the student may earn an IUP baccalaureate degree, provided he has been faithful to faculty advisement.

Course work in the pre-legal program centers upon a carefully developed interdisciplinary minor. For detailed guidance in pre-law, students should consult with the Associate Dean of the Social Sciences Division.

The pre-professional health programs in Arts and Sciences presuppose that the student has an excellent background in the high school sciences and mathematics, or will prove to be an excellent college student. Because admission standards at most professional schools are very high, students desiring pre-professional preparation for any of these fields will find it advantageous to major in the basic department discipline, making known to the department chairman their eventual goal but delaying explicit affiliation with the pre-professional program until they have established themselves academically at the college level. Commitment to any pre-professional program must be made not later than the end of the student's fourth semester.

Students interested in the related health fields (dentistry, pharmacy, optometry, osteopathy, physical therapy, podiatry, etc.) should consult with the Associate Dean of the Natural Sciences and Mathematics Division during their first semester of IUP attendance, or as soon thereafter as possible.

INTERNSHIP PROGRAMS

Several departments have established programs under which students engage in off-campus supervised work experience for credit. During the past year Indiana students have worked in Harrisburg, Pa. as aides to state legislators, with the Governor's Justice Commission and the Local Government Commission, and with the Investigations Division, Pennsylvania Department of Justice. Others have worked in state hospitals at Torrance, Woodville and Mayview, at correctional institutions in Pitts-

burgh, Greensburg, and Warrendale, as child therapists at the Indiana County Guidance Center, as peer group counselors on the local campus, as an assistant to the Pennsylvania State Republican Chairman, as on-site guides at The United Nations, as workers on an Israeli kibbutz, and as student aides for the Department of Education, Puerto Rico. Other students have worked in the Pittsburgh federal probation office. Many students have worked with major political parties and candidates at the local and state level. At the county level, they have been attached to the County Planner, the Common Pleas Court, Coroner, Treasurer, Commissioners and Boro Manager. Students have also worked in the Washington office of Pennsylvania Congressmen, and in the Governor's Office. At the study-abroad level, internships are also available in West Germany in schools, government offices, social agencies and publishing.

For more information about specific Internship programs students should consult with the chairman for the department in which the student is majoring. Low-income students eligible for internships may receive federal-state funding.

BIOLOGY DEPARTMENT

FRANCIS W. LIEGEY, CHAIRPERSON: ALICO, BAKER, CONWAY, CHARNEGO, CISKOWSKI, DIETRICH, FERRENCE, FORBES. GALLATI, GREAVES, GOLD, HUE, HUMPHREYS, MERRITT, J. H. MILLER, R. N. MOORE, NASTASE, PICKERING, SCHROCK, STAPLETON, STRAWCUTTER, VALLOWE, WAECHTER, WASKOSKIE, ZENISEK

Degrees offered by the Biology Department are the Bachelor of Science in Biology, the Bachelor of Arts in Biology, and the Bachelor of Science in Education with a Biology major. The first two degree programs are under the School of Arts and Sciences, and the third is under the School of Education. The department also offers a Biology minor.

CURRICULA

The program leading to a B.S. in Biology is a concentrated curriculum designed to give the student adequate preparation for admission to graduate school or professional colleges, such as Medical, Dental and Veterinary Colleges. In addition, with the proper selection of electives, the graduate should be qualified to assume a position in industry or in state and federal agencies requiring well-trained biologists.

The program leading to a B.A. in Biology is a more flexible curriculum, permitting the student to obtain an adequate background in related areas. Students electing this curriculum would be most interested in going into the fringe areas of biology, such as sales, technical services, or management. Although the training should be sufficient for admission to graduate school or professional colleges, the student would be at a disadvantage compared with students who elect the B.S. program.

The program leading to the B.S. in Education with a Biology major is designed to prepare for Certification in public school teaching.

Core Program

Requirements for ALL Biology majors are 15 credits in Biology, 16 credits in Chemistry, and 4 credits in Mathematics as follows:

Biology (15 credits)	
BI 105 – Cell Biology	4 cr.
BI 110 – Plant Biology	5 cr.
BI 120 – Animal Biology	5 cr.
BI 490 – Biology Seminar	1 cr.
Chemistry (12 credits)	
CH 111 – Gen Chem I	4 cr.
CH 112 – Gen Chem II	4 cr.
CH 231 – Organic Chem I	4 cr.
CH 351 – Biochemistry	4 cr.
Mathematics (4 credits)	
MA 013 – Calc I	4 cr.

B. S. in Biology

In addition to the Core Program, requirements for the degree of Bachelor of Science in Biology are 18 additional credits in Biology, 4 additional credits in Chemistry, 4 additional credits in Mathematics, and 8 credits in Physics, as follows:

Biology
BI Electives 18 cr.
Chemistry
CH 232 — Organic Chem II 4 cr.
Mathematics
MA 015 — Calc II 4 cr.
Physics
PY 111 — Physics I 3 cr.
PY 112 — Physics II 3 cr.
PY 121 — Physics I Lab 1 cr.
PY 122 — Physics II Lab 1 cr.

B. A. in Biology

In Addition to the Core Program, requirements for the degree of Bachelor of Arts in Biology are 12 additional credits in Biology electives.

B. S. in Education — Biology Major

In addition to the Core Program, requirements for the degree of Bachelor of Science in Education with a Biology major are 13 additional credits in Biology, 8 credits in Physics, 29 credits in Professional Education, and the General Education requirements of the University as follows:

Core Program (35 credits) — see page 69
Biology (13 credits)
BI 262 — Ecology 3 cr.
BI 263 — Genetics 3 cr.
BI Electives 7 cr.
Physics (8 credits)
Same as for B.S. in Biology — see page 69
Professional Education (29 credits) — see page 184
General Education — see page 57

Minor in Biology, Arts and Science Students

To minor in Biology, a student must gain the permission of the Biology Department Chairman. The minor consists of a minimum of 17 credits and a suggested course sequence is as follows:

BI 103 — Gen Biol I 4 cr. or BI 105 — Cell Biol 4 cr.
BI 140 — Gen Biol II 4 cr. or BI Elective 3 cr.
plus
BI 110 — Plant Biol 5 cr.
BI 120 — Animal Biol 5 cr.

Special Required Courses

The Biology Department provides special service courses for other Departments and Schools.

Elementary Education: BI 311 and EL 312
Home Economics: BI 151 and BI 241
Nursing: BI 150, BI 151 and BI 241
Physical Education: BI 151

COURSE DESCRIPTIONS

A travel fee will be required for all field courses.

General Education Courses

BI 103 GENERAL BIOLOGY I 4 cr.
Introduces biological components of some of man's major problems. Considerable time on information and methodology current in biological sciences: ecology, energy storage and release, molecular transport, chemical control, and development. Three hours lecture, 2 hours lab per week.

BI 104 GENERAL BIOLOGY II 4 cr.
Prerequisite: BI 103.
Completion of background information with study of selected areas of biology, such as genetics, evolution, and behavior. Intensive consideration of the impact of biological problems on man's existence. Three hours lecture, 2 hours lab per week.

Biological Science Courses

BI 105 CELL BIOLOGY 4 cr.
Introductory course to increase depth of beginning student's understanding of structural, functional developmental and evolutionary aspects of cell concept. Three hours lecture, 2 hours lab per week.

BI 110 PLANT BIOLOGY 5 cr.
Prerequisite: BI 105 or special permission.
Plant structure, function and development, recognition and grouping, environmental relationships, and economic importance of plants considered. Three hours lecture, 4 hours lab per week.

BI 112 PLANT DIVERSITY 3 cr.
Prerequisite: BI 110.
Anatomy and life processes of selected algae, bacteria, fungi, mosses, ferns and their allies. Two hours lecture, 3 hours lab per week.

BI 120 ANIMAL BIOLOGY 5 cr.
Prerequisite: BI 105 or special permission.
Morphology, physiology, embryology, ecology, taxonomy, social and economic importance of animals; consideration of principles applicable to a correlation of classical with present zoology. Three hours lecture, 4 hours lab per week.

BI 251 PLANT TAXONOMY 3 cr.
Prerequisite: BI 110.
Considers the collection, preservation, and identification and taxonomy of plants of this region. Two hours lecture, 3 hours lab per week.

BI 252 FIELD ZOOLOGY 3 cr.
Prerequisite: BI 120.
Field study of animals; collection and preservation techniques for utilization in museum and instructional use; student collections and field trips required. Two hours lecture, 3 hours lab per week.

BI 261 ORNITHOLOGY 3 cr.
Prerequisite: BI 105 or BI 103 and 104.
A study of birds of the region. Indoor laboratory as well as field trips required. Two hours lecture, 3 hours lab per week.

BI 262 GENERAL ENTOMOLOGY 3 cr.
Prerequisite: BI 120.
Morphology, anatomy, ecology, taxonomy, economic and public health importance of insect orders, particularly those of Western Pennsylvania; student collection and field trips required. Two hours lecture, 3 hours lab per week.

BI 263 GENETICS 3 cr.
Prerequisites: BI 110 or 120 and CH 231.
Deals with the distribution and function of the hereditary material; special emphasis on microbial, viral, and molecular genetics. Two hours lecture, 3 hours lab per week.

BI 271 EVOLUTION 3 cr.
Prerequisite: One year biology.
Historical development of evolutionary thought, evidence for evolution and operational mechanisms involved; origin and phylogenetic relationships of biologic groups. Three hours lecture per week.

BI 272 CONSERVATION OF PLANT AND ANIMAL RESOURCES 3 cr.
Prerequisites: BI 105 or BI 103 and 104.
Special attention to study of accepted practices in soil, water, forest and game conservation. Two hours lecture, 3 hours lab per week.

BI 285 BIOTECHNIQUE 3 cr.
Prerequisites: One year biology, one year chemistry.
Production of whole mount, smear, squash, microtome section and serial section microscope slides of both plant and animal organisms. Three combined lecture/laboratories of 2 hours each per week.

BI 331 ANIMAL DEVELOPMENTAL BIOLOGY 3 cr.
Prerequisite: BI 120.
Aspects of comparative and molecular development of animals. Two hours lecture, 3 hours lab per week.

BI 332 COMPARATIVE VERTEBRATE ANATOMY 3 cr.
Prerequisite: BI 120.
Discussion of anatomy of representative vertebrates from a comparative point of view. Stresses major organizational changes observed in vertebrate history. Two hours lecture, 3 hours lab per week.

BI 350 CELLULAR PHYSIOLOGY 3 cr.
Prerequisite: CH 231.
Topics include nutrition, uptake and preparation of food and oxygen, release of energy and elimination of waste products; would complement the animal and plant physiology. Two hours lecture, 4 hours lab per week.

BI 351 PLANT PHYSIOLOGY 3 cr.
Prerequisites: BI 110, CH 231.
Studies physiological processes occurring in plants, considered in relation to growth and development of plant. Two hours lecture, 3 hours lab per week.

BI 352 COMPARATIVE ANIMAL PHYSIOLOGY 3 cr.
Prerequisites: BI 120, CH 351.
Comparative study of homeostatic mechanisms and systems in animals and their relation to fundamental chemical and physical events in cells. Two hours lecture, 3 hours lab per week.

BI 361 MICROBIOLOGY 3 cr.
Prerequisites: BI 105, CH 351.
Introduction to morphology, physiology, and ecology of procaryotic organisms. Importance of microorganisms in basic and applied research, economics, infection, and immunology are discussed. Two hours lecture, 3 hours lab per week.

BI 362 ECOLOGY 3 cr.
Prerequisites: BI 110 and 120.
Study of interrelations and adaptations of organisms; includes consideration of physical and biotic environmental factors. Field trips. Two hours lecture, 3 hours lab per week.

BI 372 PLANT ANATOMY 3 cr.
Prerequisite: BI 110.
Embryological development and growth and maturation of typical vascular plants; emphasis placed on differentiation and maturation of plant organs of various families. Two hours lecture, 3 hours lab per week.

BI 441 GENERAL PHYSIOLOGY 4 cr.
Prerequisites: BI 350, 351, or 352, CH 351, MA 013 (or permission of instructor).
Molecular approach to quantitative analysis of mechanisms of functional operation and coordination in living organisms. Emphasis on chemical and physical principles operating at primary functional units of organization. Three hours lecture and 3 hours lab per week.

BI 446 DENDROLOGY 3 cr.
Prerequisites: BI 110 or 112, or by permission of instructor.
Study of woody plants as to their identification, distribution, ecology, culture, anatomy, physiology, mensuration and utilization. Two hours lecture, 3 hours lab per week.

BI 472 RADIATION BIOLOGY 3 cr.
Prerequisites: Two years Biology, one year Physics, and General, Organic, and Biochemistry.
Aspects of nuclear physics and radioactive isotopes; uses, effects, detection and measurement of radioactive nuclides used in biology. Two hours lecture, 3 hours lab per week.

BI 475 MAMMALOGY 3 cr.
General consideration of major radiations of mammals — history of the order and discussion of some current mammalian research topics. Emphasis on comparative morphology and structural and functional evolution. Research paper required. Two hours lecture, 3 hours lab per week.

BI 476 PARASITOLOGY 3 cr.
Prerequisite: BI 120
Structure, physiology, ecology, life cycles, pathology and treatment of parasitic protozoa, flatworm and roundworm species of man. Dissection of hosts for parasites. Two hours lecture, 3 hours lab per week.

BI 478 MYCOLOGY 3 cr.
Prerequisite: BI 110
Involves systematics, morphology, and physiology of Mysomyocophyta and Eumpcophyta, with emphasis on economically important and experimentally useful taxa. Two hours lecture, 3 hours lab per week.

BI 480 BIOLOGY SEMINAR 1 cr.
Discussion of recent trends in biological thought and research. Students report on assigned readings and/or personal research.

BI 481 SPECIAL TOPICS 1-3 cr.
These courses vary from semester to semester covering diverse topics in specific areas of Biology.

BI 482 INDEPENDENT STUDY 1-3 cr.
Student investigates independently any field of biology in which interested. Work supervised by a faculty member but does not involve regular class or laboratory hours. Enrollment by permission only.

BI 489 LITERATURE OF BIOLOGY 2 cr.
Designed for student who wishes to acquaint himself with some of the useful sources of reference in biology. Given only in the summer.

BI 498 BIOLOGY INTERNSHIP Max 6 hrs. toward the major, Max. 12 hrs. total
Prerequisites: Biology major with at least 90 credit hours and permission of the Director of Internships and the Chairman.
Selected students have opportunity, under Department supervision, to gain off-campus practical experience in area of interest. Total number of credits and number of credits toward the Biology major will be decided in consultation between student, his advisor, and Director of Internships.

BI 499 RESEARCH BIOLOGY 1-3 cr.
Acquaints student with techniques of modern research by actively engaging in a program of biological experimentation and/or research with a faculty member (or members). No formal lectures or laboratories, Enrollment by permission only.

Course Required of Secondary Education Majors

ED 451 TEACHING SCIENCE IN THE SECONDARY SCHOOL 3 cr.
Background to help science majors meet the problems of teaching science. Various inquiry approaches useful in meeting objectives of a contemporary science class are taught and exemplified. Two hours lecture, 2 hours lab per week.

Courses Provided for Students in Elementary Education

BI 311 ENVIRONMENTAL BIOLOGY 4 cr.
Laboratory and field course providing basic knowledge in biology and its practical implications. Physical and biological aspects of the environment are studied. Three hours lecture, 3 hours lab per week.

ES 312 TEACHING OF ELEMENTARY SCIENCE 3 cr.
Emphasis placed upon science as it relates to the child and the curriculum, planning for teaching science, and recent innovations in science teaching. (Course offered on the block only.)

Courses Provided For Students in Home Economics, Physical Education and Nursing

BI 150 VERTEBRATE ANATOMY 3 cr.
Study of systematic anatomy of vertebrate's body. Deals almost entirely with the mammal. The cat is used for dissection in lab. Two hours lecture, 3 hours lab per week.

BI 151 HUMAN PHYSIOLOGY 3 cr.
Functions of various organ systems of humans. Recommended for non-majors, not open to majors. Two hours lecture and one lecture-demonstration per week.

BI 241 GENERAL MICROBIOLOGY 3 cr.
Study of microorganisms, and role they play in water, soil, food, and infection. Standard methods and techniques are emphasized in laboratory. Two hours lecture, 3 hours laboratory per week. (Non-majors only.)

NOTE: See Marine Science Consortium Section for additional course listings.

CHEMISTRY DEPARTMENT

STANFORD L. TACKETT, CHAIRPERSON: BALLAS, BORDAS, CHRISTODOULEAS, COLEMAN, COSTA, FAZIO, HARTLINE, KOLACZKOWSKI, MARKS, McKELVEY, NELSON, PATSIGA, SCROXTON, SYTY, WUNZ, ZAMBOTTI, ZIMMERMAN.

Degrees offered by the Chemistry Department are the Bachelor of Science in Chemistry, the Bachelor of Arts in Chemistry and the Bachelor of Science in Education with a Chemistry major. The first two degree programs are under the School of Arts and Sciences, and the third is under the School of Education. The department also offers a Chemistry minor.

CURRICULA

The B.S. in Chemistry is a professional degree and is accredited by the American Chemical Society. The student completing this major should be qualified to assume a position in industry or government as a chemist or to apply for admission to graduate school to pursue advanced studies leading to an M.S. or Ph.D. degree. The student considering going to a professional school should also be qualified upon completion of this degree. Those students who are particularly interested in biochemistry should elect a few selected biology courses.

The curriculum leading to the B.A. in Chemistry is designed to allow for the workable union of nonscience areas with chemistry in such a way as to retain the fundamental science and mathematics requirements needed for a career in chemistry. A cognizant selection of electives will qualify the student for entrance into many fields in which there is an acute need for educated people and, at the same time, satisfy the entrance requirements of various professional and graduate schools.

Some possible and useful combinations between chemistry and other disciplines would include chemistry-business administration, chemistry-criminology, chemistry-government, chemistry-predental, chemistry-prelaw, chemistry-premedicine, chemistry-prepharmacy, and chemistry-English (technical writing). The student must arrange a practical sequence of non-chemistry courses in consort with his advisor and the department chairman concerned.

The curriculum leading to the B.S. in Education with a Chemistry major is designed to prepare the student to teach chemistry at the secondary school level. Upon completion of the specified course work, the graduate is eligible for certification as a chemistry teacher by the Pennsylvania Department of Education.

Core Program

Requirements for ALL Chemistry majors are 29 credits in Chemistry, 8 credits in Mathematics, and 8 credits in Physics as follows:

Chemistry		
CH 113-114	Concepts in Chem I and II	8 cr.
CH 231-232	Org Chem I and II	8 cr.
CH 321	Quant Anal	4 cr.
CH 322	Instrumental Anal	4 cr.
CH 341	Phys Chem I	4 cr.
CH 343	Phys Chem Lab I	1 cr.
Mathematics		
MA 017-019	Calc I and II for Physics	8 cr.
Physics		
PY 131-132	Phys I and II	3 cr. each
PY 141-142	Phys Lab I and II	1 cr. each

B.S. in Chemistry

In addition to the Core Program, requirements for the degree of Bachelor of Science in Chemistry are 14—15 more credits in Chemistry and 3 more credits in Mathematics. In addition, the Department requires that the foreign language requirement (6 credits) of the School of Arts and Sciences be fulfilled by German or Russian courses. Course numbers are as follows:

Chemistry		
CH 301	Chemistry Seminar	1 cr.
CH 342	Phys Chem II	3 cr.
CH 344	Phys Chem Lab II	1 cr.
CH 411	Inorg Chem	3 cr.
Electives from the following (6-7 credits):		
CH 331	Org Qual Anal	3 cr.
CH 335	Advan Org Chem	3 cr.
CH 351	Biochem	4 cr.
CH 376	Radiochem	3 cr.
CH 412	Inorg Preparations	3 cr.
CH 421	Advan Instrum Anal	3 cr.
CH 441	Advan Phys Chem	3 cr.
CH 498	Problems in Chem	1-2 cr.
Mathematics (one of the following)		
MA 361	Ord Diff Eq	3 cr.
MA 471	Advanced Calculus for Applications	3 cr.
*MA 481	Special Topics in Mathematics (Applied Differential Equations)	3 cr.
CO 110	Introduc to Computer Science	3 cr.
Foreign Language		
GM 251-252	Ger III and Ger IV or	
GM 256	Sci Ger (in place of 252)	3 cr. each
RU 251-252	Russian III and IV	3 cr. each

*MA 481 is currently a temporary number. A different permanent number will be assigned in the future.

B.A. in Chemistry

In addition to the Core Program, requirements for the degree of Bachelor of Arts in Chemistry are 15 credits minimum in a complementary field, including a minimum of 6 credits of advanced work. Any foreign language may be taken to fulfill the arts and sciences graduation requirement.

B.S. in Education (Chemistry Major)

In addition to the core program requirements for the degree of Bachelor of Science in Education with a chemistry major are 4–5 more credits in Chemistry (a minimum of 33 credits total in Chemistry are required), 4 credits in biology, and 3 credits in education, as follows:

Chemistry		
CH 498	Problems in Chem	1 or 2 cr.
(at least one of the following)		
CH 411	Inorganic Chem	3 cr.
CH 351	Biochemistry	4 cr.
CH 342	Physical Chemistry II	3 cr.
Biology		
BI 105	Cell Biology	4 cr.
Education		
ED 451	Teaching Science in the Secondary School (see Biology)	3 cr.

Minor in Chemistry

The minor in Chemistry consists of a minimum of 20 credits, selected as follows:

CH 111-112	Gen Chem I and II	8 cr.
CH 231-232	Org Chem I and II	8 cr.
CH 321	Quant Anal	4 cr.
or		
CH 323	Anal Methods	4 cr.
or		
CH 351	Biochem	4 cr.

Special Courses

The Chemistry Department provides certain special courses as services for other Schools and Departments, such as Chemistry 101 and 102 for Home Economics and Health Professions, Chemistry 103 for Physical Education and Indiana Hospital nurses, and Chemistry 355 for Home Economics.

COURSE DESCRIPTIONS

For those courses which combine lecture and laboratory, attendance and satisfactory performance in the laboratory are required in order to pass the course.

CH 101-102 CHEMISTRY FOR HOME ECONOMICS AND HEALTH PROFESSIONS I AND II — 4 cr. each
Topics from fields of inorganic, organic and biochemistry that are most important to the student of home economics and nursing. Three hours lecture, 2 hours lab per week.

CH 103 PRINCIPLES OF CHEMISTRY — 4 cr.
One-semester course to survey areas of inorganic and biochemistry. Open only to Physical Education majors and Indiana Hospital nurses. Three hours lecture, 2 hours lab per week.

CH 111–112 GENERAL CHEMISTRY I AND II — 4 cr. each
Lecture-discussion of principles of chemistry, including theory and applications. The lab illustrates principles discussed. Three hours lecture, 3 hours lab per week.

CH 113-114 CONCEPTS IN CHEMISTRY — 4 cr. each
These two semesters of general chemistry give the chemistry major an in-depth and quantitative background in areas of physical, inorganic and analytical chemistry. Three hours lecture, 3 hours lab per week.

CH 231-232 ORGANIC CHEMISTRY I AND II 4 cr. each
Prerequisites: CH 112 or CH 114.
Study of compounds of carbon, with special emphasis on structure and reactions of more important classes of carbon compounds. Laboratory work involves preparation and purification of representative compounds. Three hours lecture, 4 hours lab per week.

CH 301 CHEMISTRY SEMINAR 1 cr.
Discussion of current technical literature and current research problems of staff. Lectures by outside chemists and student presentations. Open to junior or senior chemistry majors and to others by permission of the instructor. One hour per week.

CH 302 INDUSTRIAL CHEMISTRY 3 cr.
Prerequisite: CH 232.
Study of applications of chemistry and science to industries of western Pennsylvania for the science teacher. Consists of lectures, laboratory work, and field trips to representative industries. Two hours lecture, 3 hours lab per week.

CH 303 GLASSBLOWING TECHNIQUES 1 cr.
Introduces science student to techniques necessary for construction and modification of scientific glass apparatus. Limited to junior and senior science majors and others by permission of instructor. Two hours instruction per week with additional practice at student's convenience.

CH 305 NEW APPROACHES TO TEACHING HIGH SCHOOL CHEMISTRY 3 cr.
Prerequisite: at least junior chemistry education major.
Survey of current approaches in teaching high school chemistry. Modified versions of Chem Study Approach and Chemical Bond Approach investigated; individualization of chemistry and application of various teaching materials and techniques used in individualizing chemistry surveyed. Environmental chemistry and development of relevant topics in chemistry used to better understand chemical basis of our current environmental problems.

CH 321 QUANTITATIVE ANALYSIS 4 cr.
Prerequisite: CH 112 or CH 114.
Theory and practice of quantitative analysis, including gravimetric and volumetric analysis; special emphasis on perfecting student's laboratory techniques and application of general chemical knowledge through problem solving. Three hours lecture, 4 hours lab per week.

CH 322 INSTRUMENTAL ANALYSIS 4 cr.
Prerequisite: CH 321.
Designed to instruct modern instrumental methods of chemical analysis. Student learns theory behind the instrument, principles of operation, interpretation of data obtained, and limitations of methods. Three hours lecture, 4 hours lab per week.

CH 323 ANALYTICAL METHODS 4 cr.
Prerequisite: CH 112 and non-chemistry major.
Principles of precipitation, acid-base, and oxidation-reduction, equilibria are applied to problem solving and to laboratory determinations: instrumental methods of analysis, such as colorimetry, atomic absorption and flame emission, gas chromatography, etc. Three hours lecture, 4 hours lab per week.

CH 331 ORGANIC QUALITATIVE ANALYSIS 3 cr.
Prerequisites: CH 231–232 (CH 232 may be taken concurrently).
Gives student experience in systematic identification of various classes of organic compounds by both chemical and physical methods. Four hours lecture-laboratory per week.

CH 335 ADVANCED ORGANIC CHEMISTRY 3 cr.
Prerequisites: CH 232 and CH 341.
Selected topics of current interest covered. Possible topics include: reaction mechanisms, molecular spectroscopy, stereochemistry, natural products, heterocyclics, polymer chemistry and organic synthesis.

CH 341 PHYSICAL CHEMISTRY I 4 cr.
Prerequisites: MA 015, 019, or 113 and PY 112 or 132; CH 112 or 114.
Chemical thermodynamics with applications to solutions, phase and chemical equilibria-kinetic theory. Four hours lecture per week.

CH 342 PHYSICAL CHEMISTRY II 3 cr.
Prerequisite: CH 341.
Study of solids, liquids, surfaces, chemical kinetics, electrochemistry, atomic and molecular structure. Three hours lecture per week.

CH 343 PHYSICAL CHEMISTRY LABORATORY I 1 cr.
Prerequisites: CH 321, 341.
Experiments illustrating application of fundamental laws to actual systems. Three hours lab per week.

CH 344 PHYSICAL CHEMISTRY LABORATORY II 1 cr.
Prerequisite: CH 342, 343.
Extension of Physical Chemistry Laboratory I; experiments related to chemical kinetics, molecular spectroscopy and other topics of physical chemistry. Three hours lab per week.

CH 351 BIOCHEMISTRY 4 cr.
Prerequisite: CH 231.
Study of chemistry of carbohydrates, liquids, proteins, minerals, vitamins, and hormones and biological functions of each. Four hours lecture per week.

CH 355 BIOCHEMISTRY AND NUTRITION 3 cr.
Prerequisite: CH 102.
Course for Home Economics major; studies chemistry and biological function of biologically active compounds with respect to nutritional requirements. Three hours lecture per week.

CH 376 RADIOCHEMISTRY 3 cr.
Prerequisite: CH 322.
Study of basic aspects of nuclear structure, phenomena of radioactive isotopes and chemical effects of such isotopes. Concurrent lab work utilizing instruments for detection and measurement of radioactive nuclides used in chemical experimentation. Lecture-Laboratory — 3 hours.

CH 411 INORGANIC CHEMISTRY 3 cr.
Prerequisite: CH 341.
Gives understanding of advanced theories of atomic structure, chemical bonding, acids and bases, coordination compounds, and selected topics. Three hours lecture per week.

CH 412 INORGANIC PREPARATIONS 3 cr.
Prerequisites: CH 321 and CH 411.
Lectures include discussion of descriptive chemistry of elements according to their periodicity; laboratory includes investigation of synthesis; purification, and characterization of inorganic substances. Four hours lecture-laboratory per week.

CH 421 ADVANCED INSTRUMENTAL ANALYSIS 3 cr.
Prerequisite: CH 322.
Study of modern chemical analysis, using advanced instrumental techniques; emphasis on theory, principles of operation, capabilities, and limitations of advanced analytical instruments used. Four hours lecture-laboratory per week.

CH 441 ADVANCED PHYSICAL CHEMISTRY 3 cr.
Prerequisite or Co-requisite: CH 342.
Study of fundamental ideas of quantum and statistical mechanics, molecular structure, and other topics of current interest. Three hours lecture per week.

CH 498 PROBLEMS IN CHEMISTRY 1 to 2 cr.
Prerequisite: Permission of Chairman.
Course of independent study on selected problems, including lab work, library reading, and conferences with staff member. A minimum of 4 hours per week required per credit.

SC 105 PHYSICAL SCIENCE I 4 cr.
See course description in Physics Department, page 146. This course is not a prerequisite for Physical Science II.

SC 106 PHYSICAL SCIENCE II 4 cr.
Designed to survey chemical principles and concepts and to relate these principles to our current environmental problems. Brief exploration made of chemistry of minerals and rocks and sources of energy for the future.

SC 111 SCIENCE IN MODERN CIVILIZATION 3 cr.
Designed to acquaint non-science major with some of the major scientific discoveries and to develop an awareness of how science affects our lives. Three hours lecture per week.

COMPUTER SCIENCE DEPARTMENT

HOWARD E. TOMPKINS, CHAIRPERSON: BUTERBAUGH, MAPLE, SHUBRA

A major in Computer Science leading to the B.A. or B.S. degree and a minor for majors in a variety of disciplines (not restricted to the sciences) are offered.

Computer Science is largely a tool discipline. Most computer use is in connection with some other subject area. Hence students should combine the study of another academic discipline with a major or minor in Computer Science. Students particularly interested in the application of computers to business problems should consider the Systems Analyst major in the Business Management Department as an alternative course of study.

Students planning to enter the computer field by way of a college education should set their goals beyond simple programming, for example, in the analysis of problems from their "other" discipline for computer solution, in the design of computer software, or in the evaluation of computer system performance.

Toward such goals, a Computer Science major today should be preparing:

1) to program well,
2) to analyze real-world problems in preparation for programming, and

3) to manage activities that are strongly computer dependent, or
4) to improve the tools that programmers and systems analysts use, i.e. to develop
   4a) better machine systems,
   4b) better software systems,
   4c) better languages for communicating with machines, or
   4d) better methods for solving intractable problems, or
5) to teach about computers at college or high school level, or
6) to advance the fundamental theory of digital information processors.

CURRICULA

The Computer Science Major Program to the B.A. or B.S. Degree

(Note 1)

Computer Science core courses:

CO 110	Introduction to Computer Science (Note 2)	3 cr.
CO 220	Applied Computer Programming Languages	3 cr.
CO 250	Introduction to Numerical Methods	3 cr.
CO 300	Assembler Language Programming	3 cr.
CO 340	Data Structures & Non-numeric Processing	3 cr.
CO 480	Seminar on Current Computer Topics, 1 credit each semester of senior year	2 cr.

At least one of the following:

CO 410	Processor Architecture & Microprogramming (3 cr.)	
CO 430	Introduction to Systems Programming (3 cr.)	
CO 440	Large File Organization & Access (3 cr.)	3 cr.

Additional Computer Science courses to bring the total CO credits to a minimum of 27

Minimum:	7 cr.
Computer Science course requirement:	27 cr.

Mathematics prerequisite to CO 250:

Math 013-015 or 017-019 or Math 111-113 Calculus (Note 3) 8 cr.

General Education requirement of the School of Arts and Sciences, including Foreign Language. Six credits of the 8 in the Calculus may be applied toward the General Education requirement of 52 credits. CO courses are not accepted as part of the General Education requirement for CO majors. Hence the additional requirement is: 46 cr.

Elective courses, preferably including minor (Note 4), possibly including additional Mathematics and Computer Science courses. 44 cr.

Minimum total for the B.A. or B.S. degree 124 cr.

Note 1: If a minor is selected from the Division of Natural Sciences and Mathematics, or from the School of Business, or if an additional 9 credits of Computer Science are taken, including 4 credits of CO 485, then the B.S. degree is awarded. Otherwise the B.A. degree is awarded.

Note 2: Credit in or exemption from CO 110 may be obtained by examination. Credit so obtained applies to the major credit requirement of 27 credits, but exemption does not. Alternatively, CO 200 (3 cr.) followed by CO 210 (2 cr.) may be taken instead of CO 110 (3 cr.). In the latter case, only the 3 credits from CO 200 may be applied to the major credit requirement of 27 credits.

Note 3: Any calculus sequence may be elected, MA 111–112 (–113) for students interested in pure math, MA 017–019 for students interested in applied math, and MA 013–015 for all others. Any calculus sequence may apply to a minor in mathematics.

Note 4: Minors are possible in a wide variety of fields. See Note 1. For specific restrictions on the minor program, see the announcement of the selected minor department in the Undergraduate Bulletin.

Concentration in Business for Computer Science Majors

(18 hours minimum; B.S. degree awarded)

BU 221 Introduction to Accounting (3 cr.)
BU 251 Intermediate Accounting (3 cr.)
BU 439 Business Information Systems (3 cr.)
Additional general business courses (3 cr. or more)

Additional data processing and systems analysis courses (3 cr. or more) such as:
BM 340 Business Systems Technology (3 cr.)
BM 443-444 Business Systems Analysis (3 cr. each)

Minor in Computer Science

Any 15 credits of Computer Science for which the student is qualified, necessarily including CO 220, Applied Computer Programming Languages.

An undergraduate course in Computer Science for majors in other disciplines who wish to take only one course is: CO 200 Introduction to Computers (3 cr.)

A student who decides to minor in Computer Science after completing CO 200 may petition to have CO 200 accepted in the minor, in place of CO 110. The department's decision may be based on an examination.

COURSE DESCRIPTIONS

CO 110 INTRODUCTION TO COMPUTER SCIENCE 3 cr.
Basic structure of modern digital computers; batch processing vs. interactive time-shared on-line computing; problem analysis and computer solution using flowcharting and the Fortran language. Two hours of lecture and 1 hour of programming discussion per week. Exemption by examination possible.

CO 200 INTRODUCTION TO COMPUTERS 3 cr.
A computer appreciation course for students with an interest in computers and what they can do; survey of computer organization, flowcharting, and programming; exercises in the interactive BASIC language; economic, political, psychological, and technical effects of computers in our society. Three hours of lecture per week.

CO 210 PROGRAMMING THE COMPUTER 2 cr.
Prerequisite: CO 200 or BU 339.
Development of computer programming skills using an algorithmic language, including computer representation of data. Problem analysis and computer solution using flowcharting and the language learned. Two recitation hours per week. May be used as a prerequisite to advanced courses in place of CO 110.

CO 220 APPLIED COMPUTER PROGRAMMING LANGUAGES 3 cr.
Prerequisite: CO 110 or BU 339 or consent of instructor.
Linguistic concepts basic to programming languages; comparison of the major higher-level procedure-oriented computer languages; introduction to tape and disc files; documentation, testing, and management practices in program development; extensive group project in COBOL. Two hours lecture and 1 hour programming discussion per week.

CO 250 INTRODUCTION TO NUMERICAL METHODS 3 cr.
Prerequisites: CO 110 and MA 015, 019 or 113.
Algorithmic methods for finding functional values, roots of equations, solutions to systems of equations; matrix operations, curve fitting, interpolation, numerical integration and differentiation, errors in computation. Three hours lecture per week.

CO 300 ASSEMBLY LANGUAGE PROGRAMMING 3 cr.
Prerequisites: CO 110 or BU 339 or consent of instructor.
Examination of structure and languages of machines; representation of data, addressing techniques, symbolic coding, assemblers, macros, etc.; problem solution using assembly language. Two hours lecture and 1 hour programming discussion per week.

CO 340 DATA STRUCTURES AND NON-NUMERIC PROCESSING 3 cr.
Prerequisites: CO 110.
Basic concepts of data; storage systems and structures; lists, arrays, strings, hashing techniques, searching and sorting techniques; data structures in programming languages; string processing. Three hours lecture per week.

CO 350 APPLIED NUMERICAL METHODS 3 cr.
Prerequisites: CO 250, MA 233, and MA 361, or consent of instructor.
Numerical methods for large linear systems and ordinary differential equations. Three hours lecture per week.

CO 410 PROCESSOR ARCHITECTURE AND MICROPROGRAMMING 3 cr.
Prerequisites: CO 300 and CO 340.
The logical description of computer processor structure (architecture), with emphasis on the microprogramming approach. Focuses on the Microdata 1600 minicomputer. Three hours lecture per week.

CO 430 INTRODUCTION TO SYSTEMS PROGRAMMING 3 cr.
Prerequisites: CO 300 and CO 340.
Concepts and techniques of systems programming with an emphasis on assembly and compilation of user programs. Representation of source language so as to facilitate the needed translation process. Exercises on the Microdata 1600/30 and Sigma 6. Three hours lecture per week.

CO 440 LARGE FILE ORGANIZATION AND ACCESS 3 cr.
Prerequisites: MA 362 (or equivalent probability and statistics), CO 300 and CO 220.
The organization of large computer files for business systems, information systems, and other applications. Use of COBOL and Assembler for efficient file access. Evaluation of file access systems. Three hours lecture per week.

CO 460 THEORY OF COMPUTATION 3 cr.
Prerequisites: CO 340 and MA 231, or consent of instructor.
Formal methods for describing and analyzing programming languages and algorithms; Backus-Naur forms; productions; regular expressions; introduction to automata; Turing machines; recent concepts in algorithm theory. Three hours of lecture per week.

CO 480 SEMINAR ON CURRENT COMPUTER TOPICS 1 cr.
Prerequisites: 12 credits in Computer Science courses.
Student presentation and discussion of topics from the current Computer Science literature. May be repeated once for a total of 2 credits. One hour seminar per week.

CO 481 SPECIAL TOPICS IN COMPUTER SCIENCE 3 cr.
Prerequisites: 12 credits in Computer Science or consent of instructor.

Seminar in advanced topics of Computer Science; content will vary, depending on interests of instructor and students. May be repeated for additional credit. Three hours lecture per week.

CO 485 SPECIAL PROJECTS IN COMPUTER SCIENCE 1-4 cr.
Prerequisites: Permission of a Computer Science faculty member who agrees to supervise your project.

Arrangements for selection of a specific topic must be made before the end of the prior term. Hours as arranged.

CRIMINOLOGY DEPARTMENT

VICTOR McGUIRE, CHAIRPERSON: BOGAN, BROWN, COHEN, KUPCHELLA, KATZMAN, McNABB, MELODINI, SHANE, SHANNON, SWEET, WEGENER

The Department of Criminology offers men and women who seek a career in the Criminology field a professional education program supported by a broad liberal arts education. The degree offered is the Bachelor of Arts degree with a major in Criminology, under the School of Arts and Sciences; also available are a Two-year Academic Diploma and a minor in Criminology.

The program in Criminology has a five-fold objective:

1. The education of students for employment and leadership in the expanding field of criminal justice.
2. The education of presently employed law enforcement and correctional officers who recognize the need for raising their educational level.
3. The instruction of students who wish to acquire an understanding of the processes of criminal justice as a cultural part of their higher education.
4. The instruction of students who wish to prepare for graduate study and research in the administration of justice.
5. A curriculum that provides an excellent foundation for students preparing for a career in law.

Nearly every level of government offers opportunities for professional careers in criminology. Employment opportunities normally exist in more than 50 Federal agencies,

including the Federal Bureau of Investigation, U. S. Secret Service, Bureau of Narcotics, Intelligence Division (IRS), Inspection Service (IRS), Alcohol Tobacco Tax Division (IRS), State Department Security, Atomic Energy Commission, and military investigative branches.

Both men and women will find employment opportunities in parole and probation work for Federal, state, and local governments, institutional careers concerned with the custody and treatment of juveniles and adults at all levels of government. In addition, many police departments have specialized units dealing with juveniles, community relations, training and research. Criminalistic laboratories provide another career area, and there are a wide variety of opportunities in traffic administration, investigative and security activities in the commercial and industrial fields.

Career opportunities are available also in research and teaching at the college and university level and in research divisions of agencies in the field of administration of justice.

CURRICULA

Required Courses:

CR 101	General Administration of Justice	3 cr.
CR 102	Criminology	3 cr.
CR 301	Criminal Law I	3 cr.
CR 302	Criminal Law II	3 cr.
CR 490	Crime in Modern Society	3 cr.

B.A. in Criminology

In addition to the Required Courses, the requirements for the degree of Bachelor of Arts in Criminology are 15 more hours in Criminology, as follows:

CR Electives	15 cr.

Two-Year Academic Diploma in Criminology

For officers and students taking this program in Criminology, requirements in addition to the Required Courses are 18 more credits in Criminology, 6 credits in English, 3 credits in Sociology, 3 credits in Psychology, 3 credits in Political Science, 15 credits of electives in the Social Sciences division, as follows:

Criminology

The following are suggested, but substitutions may be permitted, depending on circumstances:

CR 201	Police Administration I	3 cr.
CR 202	Police Administration II	3 cr.
CR 310	Criminal Investigation	3 cr.
CR 340	Crime Prevention	3 cr.
CR 350	Techniques of Interviewing	3 cr.
CR 415	Supervision in the Administration of Justice	3 cr.

English

EN 101	English I	3 cr.
EN 102	English II	3 cr.

Psychology

PC 201	General Psychology	3 cr.

Political Science
PS 111 American Politics 3 cr.
Sociology
SO 151 Introduction to Sociology 3 cr.
Electives
Any of the Social Sciences 15 cr.

Minor in Criminology

The minor in Criminology must be approved by the department and consists of a minimum of 18 credits, consisting of the Required Courses plus the following:

Criminology Electives 3 or more cr.

COURSE DESCRIPTIONS

CR 101 GENERAL ADMINISTRATION OF JUSTICE 3 cr.
Administration of criminal justice in United States. Deals with role of police, courts, and correctional process.

CR 102 CRIMINOLOGY 3 cr.
Prerequisite: CR 101.
General survey of nature and causes of crime and its prevention and treatment.

CR 201 POLICE ADMINISTRATION I 3 cr.
Prerequisite: CR 102.
Analysis of organizational structure, administrative practices, and operating procedures of law enforcement agencies.

CR 202 POLICE ADMINISTRATION II 3 cr.
Prerequisite: CR 201.
Continuation of Police Administration I, with special emphasis on staff functions, such as records, communications, training, personnel administration, and finance.

CR 301 CRIMINAL LAW I 3 cr.
Prerequisites: CR 101 and 102.
A study and substantive law analysis of the elements of crimes, with an emphasis on understanding the application of those elements. Attention is given to defenses, uncompleted conduct, conspiracy and parties to crime.

CR 302 CRIMINAL LAW II 3 cr.
Prerequisites: CR 101 and 102.
Laws of arrest, search and seizure, with a discussion of important case law. Analysis of safeguards established for protection of individual liberties, especially as found in application of rules governing the introduction and use of information in formalized legal proceedings.

CR 310 CRIMINAL INVESTIGATION 3 cr.
Theory and practice of investigation; discussion of various types of information obtainable from persons and things; application of investigative theory to crime and accidents.

CR 311 CRIMINALISTICS 3 cr.
Prerequisite: CR 310.
Application of scientific crime detection methods; emphasis on collection, preservation, and interpretation of physical evidence found in connection with a crime. Two hours lecture, and 3 hours lab per week.

CR 320 TRAFFIC ADMINISTRATION I 3 cr.
Origin and growth of traffic problem; emphasis on traffic enforcement and procedures, organization and functions of police traffic division, study of traffic laws and judicial process.

CR 325 INSTRUMENTAL DETECTION OF DECEPTION 3 cr.
Prerequisite: CR 350.
Devices for measuring emotional responses to verbal stimuli; psychological and physiological aspects of deception; analysis of detection of deception techniques and their application to law enforcement. Two hours lecture, and 3 hours lab per week.

CR 330 PLANNING AND RESEARCH 3 cr.
Prerequisites: CR 101 and 102.
Role of planning and research in contemporary law enforcement; analysis of planning process and nature of planning with emphasis on planning for special events and situations.

CR 340 CRIME PREVENTION 3 cr.
Organization and function of crime prevention agencies; problems and techniques in the prevention of crime; community resources in preventing crime.

CR 350 TECHNIQUES OF INTERVIEWING 3 cr.
Consideration of the nature, methods, and principles of interviewing; emphasis on role playing in interviewing situations.

CR 360 COMMERCIAL AND INDUSTRIAL SECURITY 3 cr.
Plant protection and industrial security; merchandising safety and security; credit and insurance investigative procedures.

CR 370 COMMUNITY RELATIONS 3 cr.
Role of law enforcement agencies in modern day society; police-community relations units, human relations resources, civil rights and professionalism in law enforcement.

CR 410 QUESTIONED DOCUMENT ANALYSIS 3 cr.
Evaluation and identification of questioned documents; admissibility as evidence, preparation and presentation in court. Two hours lecture, and 3 hours lab per week.

CR 411 ADVANCED CRIMINALISTICS 3 cr.
Prerequisite: CR 311.
Ballistics, serology, narcotics, poisons, firearms identification, chromatography, alcohol tests, and hair identification. Two hours lecture and 3 hours lab per week.

CR 415 SUPERVISION IN THE ADMINISTRATION OF JUSTICE 3 cr.
Consideration of supervisory problems in field of administration of justice; emphasis on such topics as leadership, motivation, morale, discipline, public relations, communications, decision-making, and the training functions.

CR 420 TRAFFIC REGULATION AND CONTROL 3 cr.
Organization for traffic control, accident investigation, traffic flow pattern, high accident frequency locations, signs, signals, and simple engineering remedial actions. Traffic safety research.

CR 425 ADVANCED INSTRUMENTAL DETECTION OF DECEPTION 3 cr.
Prerequisite: CR 325.
Special techniques in detection of deception, including: Backster techniques, Keeler technique, Modified Backster technique, and the Integrated Control Question technique. Statistical chart interpretation. Polygraph research. Two hours lecture, 3 hours lab per week.

CR 430 COMPARATIVE STUDY OF JUSTICE 3 cr.
Comparison of American system of administration of justice with those of other nations, including developed and underdeveloped countries.

CR 431 ETIOLOGY OF DELINQUENT BEHAVIOR 3 cr.
Analysis of the aberrant behavior of children and youth in terms of modern behavioral sciences; personality and social factors examined with a view toward developing prevention and control procedures.

CR 432 TREATMENT AND CONTROL OF DELINQUENCY 3 cr.
Analysis of juvenile court procedures, juvenile probation, juvenile

institutions, and juvenile parole in treatment and control of delinquency.

CR 440 INSTITUTIONAL TREATMENT OF THE OFFENDER 3 cr.
Modern philosophy and methods in treatment of adult criminals and juvenile delinquents in correctional institutions.

CR 445 NON-INSTITUTIONAL TREATMENT OF THE OFFENDER 3 cr.
Analysis of principles and practices in probation and parole; case method; techniques of supervision.

CR 460 INDUSTRIAL SECURITY AND SAFETY 3 cr.
Administration of fire and accident prevention programs; government security programs; document control, security clearances, and visitor control; special problems and hazards.

CR 480 SEMINAR IN ADMINISTRATION OF JUSTICE 3 cr.
Study of problems in administration of justice, reports based upon original investigation; reviews of recent books and periodical literature; topics of current interest, Enrollment limited.

CR 481 SPECIAL TOPICS 1-3 cr.
Prerequisite: 15 credits in Criminology.
Individual research under direction of staff. Course may be taken more than once for credit. By appointment only.

CR 488 INTERNSHIP 12 cr.
Prerequisite: 18 credits in Criminology.
Practicum designed to broaden educational experience of students through appropriate observational and work assignments with governmental agencies and private firms. Offered during summer and spring only. By appointment only.

CR 490 CRIME IN MODERN SOCIETY 3 cr.
Analysis of nature and extent of crime at state, national, and international levels of government; consideration of special problems in metropolitan areas, organized crime, the professional criminal and white-collar crime; crime control in a democratic society.

CR 492 CORRECTIONAL ADMINISTRATION 3 cr.
Administration of juvenile and adult probation and parole programs, and correctional institutions; emphasis on special problems encountered in field.

CR 498 SUPERVISED PROFESSIONAL EXPERIENCE 6 cr.
Prerequisite: 18 credits in Criminology.
Practicum designed for full-time police officers who attended the FBI Academy and/or Pennsylvania State Police Academy. By Departmental approval only.

ECONOMICS DEPARTMENT

DONALD A. WALKER, CHAIRPERSON: CROSS, DAVIS, GARVIN, HOLT, HUFF, MARTEL, RICHARD, STONEBRAKER, WARE.

The Economics Department offers courses to meet the needs of IUP students in three general areas: a program that prepares students majoring in Economics for graduate school or immediate employment; a program that prepares Indiana students to teach Economics on the high school level; and a program that enables students majoring in other departments to take courses in Economics.

Degrees offered are the Bachelor of Arts in Economics and the Bachelor of Science in Education with a major in Social Sciences, concentrating on Economics.

CURRICULA

The program for Economics majors is designed for those who intend to pursue careers as economists in education, government, industry, finance, or commerce. The economist in today's world occupies an increasingly important position and great opportunity exists for qualified people.

Economics 101, BASIC ECONOMICS, may be taken in partial fulfillment of the Social Sciences segment of the University's General Education requirement. Economics 101 can not be programmed by Economics majors or minors, by students enrolled in the Business School, or by students in the School of Education who are contemplating teaching social science on the high school level. Instead, Economics 121, PRINCIPLES OF ECONOMICS I, should be substituted, as this course serves as a foundation for many advanced Economics courses and should be programmed by all students who wish to take such courses. Economics 121 also counts toward fulfillment of the Social Science General Education requirements. Students can receive credit toward graduation for either EC 101 or EC 121 but **not** both.

Students majoring in other fields are welcome to choose Economics courses among the upper-division electives. These courses are designed to aid the student in developing sophisticated insight into economic issues and are valuable in many ways, regardless of the student's ultimate vocation.

It is recommended that the Economics major take a minor in one of the other Social Sciences, in Business (Business Management, General Business, Accounting), or in Mathematics. A minor in Mathematics is strongly recommended for those whose future may include graduate work in Economics.

Core Program

Requirements for ALL Economics majors and minors are 6 credits in Economics, as follows:

EC 121	Principles of Economics I	3 cr.
EC 122	Principles of Economics II	3 cr.

B.A. in Economics

In addition to the Core Program, requirements for the degree of Bachelor of Arts in Economics are 21 more credits in Economics, as follows:

EC 421	Macroeconomic Analysis	3 cr.
EC 422	Microeconomic Analysis	3 cr.
Economics electives		15 cr.

B.S. in Education (Economics Concentrate)

In addition to the Core Program requirements for the degree of Bachelor of Science in Education with a major in Social Sciences, concentrating in Economics, are 9 more credits of Economics electives, excluding Economics 101.

Minor in Economics

To minor in Economics, the student must take 9 credits of Economics electives in addition to the Core Program, excluding Economics 101 as a possible elective.

Concentrations in Economics

The Department of Economics offers several concentrations in particular aspects of Economics. The concentrations are designed to equip students with the education and skills that will enable them to obtain a position in government or private business upon completion of the undergraduate degree. The Department provides verification that students have completed a concentration, and they may also have the information recorded on their transcripts. These concentrations are not restricted to Economics Majors. The concentrations available at present are:

Competition and Public Policy
Economics of Government Affairs
International Economics
Labor Economics
Managerial Economics
Monetary Economics
Quantitative Economics

Detailed information regarding these concentrations may be obtained from the Department Chairperson.

Pre Law Program

The Department of Economics is a participant in the Pre Law Program offered by the School of Arts and Sciences. For further information concerning this program see page 67.

Grades and Quality Points

The quality point average necessary for graduation or the approval of a specific program is 2.0. This requirement is applicable to economic majors, minors, concentrates of the School of Education, and the concentrations offered by the Department of Economics. The calculation of the quality point average is indicated on page 31.

COURSE DESCRIPTIONS

EC 101 BASIC ECONOMICS 3 cr.
Study of how man makes a living, individually and collectively, with particular reference to our own economic system. For those who do not plan to take more than 3 credits of Economics.

EC 121 PRINCIPLES OF ECONOMICS I 3 cr.
Nature and methodology of economics; mixed capitalism and market economy; national income; employment theory, including economics of fiscal policy; money, banking, and Federal Reserve System; economic growth.

EC 122 PRINCIPLES OF ECONOMICS II 3 cr.
Economics of the firm; theory of consumer demand; determination of price and output in different market structures; distribution of income; foreign trade and the balance of payments.

EC 241 CONTEMPORARY ECONOMIC ISSUES 3 cr.
Examination of relevant and important problematic aspects of U. S. and of world economy, including a rigorous but nontechnical analysis of problem, and a formulation and evaluation of possible corrective policies.

EC 283 ENVIRONMENTAL ECONOMICS 3 cr.
Examination of economic costs and benefits of environmental control and modification. Techniques of economic analysis used to understand economic aspects of environmental problems and contribute toward their solution.

EC 305 MATHEMATICS FOR ECONOMISTS 3 cr.
Elements of algebra and calculus necessary to enable students to grasp mathematical foundations of economic theory and statistical research, with examples taken from economic theory and data.

EC 306 MATHEMATICAL ECONOMICS 3 cr.
Prerequisite: EC 305 or its mathematical equivalent or permission of the instructor. Application of mathematical methods to microeconomics and macroeconomics, and an introduction to linear programming.

EC 320 HISTORY OF ECONOMIC THOUGHT 3 cr.
Prerequisite: EC 121 or 122 or permission of the instructor.
Examination of social, political, intellectual, and economic origins of work of the more prominent past economists, and of content and impact of their work.

EC 325 MONETARY ECONOMICS I 3 cr.
Prerequisite: EC 121 or permission of the instructor.
Organization, operation, and economic significance of U. S. monetary institutions; commercial banks and Federal Reserve System; survey of monetary theory and policy; mechanism of international payments.

EC 326 MONETARY ECONOMICS II 3 cr.
Prerequisite: EC 325 or permission of the instructor.
Detailed study of monetary theory; tasks of central banking; principal objectives of monetary policy; intensive study of recent monetary experience; complementary and competing aims of monetary and fiscal policy.

EC 330 LABOR ECONOMICS 3 cr.
Prerequisite: EC 122 or permission of the instructor.
History, structure, and operations of trade unions and employer organizations; major Federal labor legislation; collective bargaining theory; wage determination; current labor problems.

EC 331 ECONOMIC ORGANIZATION OF INDUSTRY 3 cr.
Prerequisite: EC 122 or permission of the instructor.
Social effectiveness of industries analyzed through measures of market structure, market conduct, and market performance.

EC 332 GOVERNMENT AND BUSINESS 3 cr.
Prerequisite: EC 122 or permission of the instructor.
Formal and informal methods used to maintain, supplement, and moderate competition as well as regulation as a substitute for competition.

EC 333 REGULATION OF INDUSTRY 3 cr.
Prerequisites: EC 121 and 122 or permission of the instructor.
Examines theory and practice of regulation, emphasizing effects of regulation on economic performance and efficiency in U. S.

EC 334 ECONOMICS OF CORPORATE DECISIONS 3 cr.
Prerequisites: EC 121 and 122 or permission of the instructor.
Applies economic theory to corporate decision making. Topics include corporate objectives, profit maximization, economic measurement and forecasting.

EC 335 PUBLIC FINANCE 3 cr.
Prerequisites: EC 121 and 122 or permission of the instructor.
Taxation and expenditure theory at Federal level; Federal budget and debt considerations; public sector impact upon economy, intergovernmental fiscal relations.

EC 336 STATE AND LOCAL FINANCE 3 cr.
Analysis of character and impact of state and local government revenue sources, expenditures, and fiscal systems.

EC 339 ECONOMIC DEVELOPMENT I 3 cr.
Prerequisite: EC 121 or permission of the instructor.
Theory of growth; theory of economic development of underdeveloped countries.

EC 340 ECONOMIC DEVELOPMENT II 3 cr.
Prerequisite: EC 121 or permission of the instructor.
Application of theory of growth and analysis of economic development of selected economies; empirical and econometric studies of underdeveloped countries and their economic institutions.

EC 341 HISTORY OF THE ECONOMIC DEVELOPMENT OF THE UNITED STATES 3 cr.
Prerequisite: EC 121 or permission of the instructor.
Examination of main patterns of the United States' economic growth since end of eighteenth century; emphasizes economic development as a laboratory for economic analysis.

EC 342 HISTORY OF THE ECONOMIC DEVELOPMENT OF MODERN EUROPE 3 cr.
Prerequisite: EC 121 or permission of the instructor.
Study of dynamic forces which contributed to development of modern Europe; industrial revolution in England; industrialization on the continent; impact of Europe on world economy.

EC 343 ECONOMICS OF HUMAN RESOURCES 3 cr.
Prerequisite: EC 121 or permission of the instructor.
Inquiry into economic, demographic, and related factors affecting growth, structure, and distribution of an economy's population.

EC 345 INTERNATIONAL ECONOMICS I 3 cr.
Prerequisite: EC 121 or permission of the instructor.
Theory of international trade; analysis of balance of payments; international economic equilibrium; mechanism of international economic and monetary adjustments.

EC 346 INTERNATIONAL ECONOMICS II 3 cr.
Prerequisite: EC 345 or permission of the instructor.
Application of theory of international trade to empirical data and problems; historical survey and examination of current problems of international trade; the institutional setting of international trade.

EC 350 COMPARATIVE ECONOMICS SYSTEM 3 cr.
Prerequisite: EC 121 or permission of the instructor.
Capitalism, socialism, and communism subjected to economic analysis; their principles, practices, institutions and philosophies.

EC 351 SOVIET ECONOMY 3 cr.
Prerequisite: EC 121 or 122 or permission of the instructor.
Thorough study of operations of Soviet economy. Course will compare and contrast workings of Soviet economy with other Communist countries.

EC 355 QUANTITATIVE ECONOMICS 3 cr.
Introduction to economic statistics. Material covered regarding empirical frequency distributions, probability, distributions of random variables, and functions of random variables, and tests of economic hypotheses.

EC 356 INTRODUCTION TO ECONOMETRICS 3 cr.
Prerequisite: EC 355 or its equivalent, or permission of the instructor.
Introduction to econometrics. Interest centers upon linear normal regression models of two or more random variables, special econometric problems, and solutions of simultaneous equations.

EC 371 ECONOMICS OF LABOR LEGISLATION 3 cr.
Prerequisite: EC 330 or permission of the instructor.
Economic background and effects of governmental regulation of

labor relations, with emphasis on a detailed examination of National Labor Relations Act as amended.

EC 372 ECONOMICS OF WAGES AND EMPLOYMENT 3 cr.
Prerequisite: EC 330 or permission of the instructor.
Analysis of wages and employment under various market structures. Also, analysis of impact of labor market forces on wages, prices, and distributive shares.

EC 381 REGIONAL ECONOMICS 3 cr.
Prerequisite: Three credit hours in Economics or permission of the instructor.
Process of regional economic growth, location theory, basic techniques of regional analysis, public and private area development programs.

EC 382 URBAN ECONOMICS 3 cr.
Prerequisite: Three credit hours in Economics or permission of the instructor.
Structure of urban economy, goals, processes, problems, and policy in urban economic development.

EC 421 MACROECONOMIC ANALYSIS 3 cr.
Prerequisites: EC 121 and 122 or permission of the instructor.
Income and employment analysis; national income accounts and theory; classical, Keynesian, and post-Keynesian models; investment, growth, and inflation theory; role of government in our economy.

EC 422 MICROECONOMIC ANALYSIS 3 cr.
Prerequisites: EC 121 and 122 or permission of the instructor.
Consumer behavior, theory of the firm, market structures, distribution, general equilibrium analysis, applications to current problems of economic policy.

EC 450 INTERNSHIP IN ECONOMICS 2-12 cr.
Prerequisite: A student must be an economics major who has completed at least 12 credit hours in economics, and who has at least a 2.5 grade point average in major and all course work. Course provides on-the-job experience in economics positions with private and governmental employers. Student is also required to complete related academic work in form of papers and selected readings. Number of credits earned will depend upon the nature of the job and amount of time involved in internship. A maximum of 6 of the credits earned in this course may be counted toward the 27 credits in economics requirement for economics majors.

EC 480 SEMINAR 3 cr.
Prerequisite: Permission of the instructor.
Seminar in selected economic issues or problems.

EC 481 SPECIAL TOPICS 3 cr.
Prerequisite: Permission of the instructor.

EC 482 INDEPENDENT STUDY 1-6 cr.
Prerequisite: Permission of the Department and the instructor.

ENGLISH DEPARTMENT

RICHARD E. RAY, CHAIRPERSON: ANDERSON, BETTS, J. BRIGHT, L. BRIGHT, COMO, COMPTON, COOK, CRAIG, CUREY, J. DAVIS, DAY, DeGEORGE, EISEN, FORCE, FREUND, FRITZ, FURGIUELE, GOURLEY, GRAY, GRAYBURN, GRUBB, HALDEMAN, HAYWARD, HAZLEY, HEIMER, R. G. JOHNSON, KRASZEWSKI, KRUPNIK, C. MAHAN, D. McCLURE, McMANMON, L. MILLER, NANIA, NIX, M. OMRCANIN, R. ROFFMAN, ROUMM, RUFFNER, RUSSELL, SAMSEY, SEACRIST, SEINFELT, R. SHAFER, H. SMITH, STERNGLASS, SWAUGER, SWIGART, R. L. THOMAS, TRUBY, WADDELL, H. WARREN, WATTA, WELDY, WILSON, WOODWORTH, YARUP, YOUNG.

One goal of the English program is to contribute to the general language proficiencies of all its students. These proficiencies include the ability to express oneself comprehensibly and clearly in written language, to speak distinctly, tastefully and meaningfully in oral language, and to appreciate, understand and draw sustenance from both long-recognized and recently produced literary and dramatic achievements in the English language. In its programs, the English Department attempts to prepare its majors for careers in the teaching of English at the secondary school level and for careers of all types where skill in communication and a conviction in favor of humane values are considered an appropriate background for the performance of assigned duties and responsibilities.

Degrees offered by the English Department are the Bachelor of Arts in English, in Pre-Law English, in Speech and Theater, or in Journalism and the Bachelor of Science in Education with an English or Communication major. The first four degree programs are under the School of Arts and Sciences, and the fifth is under the School of Education. In addition, an English minor is available in the School of Arts and Sciences.

CURRICULA

Special Requirements

In meeting the University's General Education requirements, English majors in both the School of Education and the School of Arts and Sciences are REQUIRED to replace EN 201, English III, with EN 202, Introduction to Literary Analysis. It is recommended that this course be taken during the sophomore year, as early as possible in the major program. Also, ALL English majors, in both the School of Education and the School of Arts and Sciences, MUST complete the intermediate sequence of a foreign language. This may be done in one of three ways: by examination, by earning credit in the third and fourth semesters of a foreign language, or by completing four semesters of a new language. If the last procedure is used, the two beginning foreign language courses may be applied as free electives to the total number of credits needed for graduation.

Speech and Theater majors are required to spend at least one summer in the Summer Theater Workshop.

English majors in the School of Arts and Sciences may not use professional education courses as free electives toward the 124 hours for graduation.

B. A. in English

The candidate for the degree of Bachelor of Arts in English usually chooses this program because he wishes a broad undergraduate education in liberal studies. He may intend to prepare for graduate study in English for eventual college teaching or for other non-academic professions. This program does not lead to certification in secondary English.

In addition to the General Education requirement for English majors (English 101, 102, and 202), requirements for the degree of Bachelor of Arts in English are 30 more credits in English selected from the list herein. All courses listed give three credits except English 390, which gives three or six credits. The English major also may select a minor of at least 15 hours in any one of several fields, such as history, philosophy, psychology, or foreign languages.

EN 206 – The Nature of Drama
EN 208 – The Art of the Film
EN 220 – Advanced Composition
or
EN 221 – Creative Writing
or
EN 222 – Journalistic Writing
EN 230 – History of the English Language
EN 235 – Languages of Media
EN 240 – Classical Literature in Translation
EN 245 – Literature for Adolescents
EN 246 – Contemporary Short Fiction
EN 247 – Poetry and Its Forms
EN 260 – English Literature to the Restoration
EN 261 – English Literature from the Restoration to 1900
EN 305 – Modern Drama
EN 310 – Oral Interpretation
EN 311 – Oral Communication
EN 321 – Feature Writing
EN 330 – Structure of English
EN 331 – Trends in Linguistics
EN 340 – European Literature From the Renaissance to the Twentieth Century
EN 341 – Modern European Literature
EN 345 – Criticism of Contemporary American and British Poetry
EN 346 – Contemporary American and British Poetry
EN 350 – American Literature to 1865
EN 351 – American Literature From 1865 to 1915
EN 352 – American Literature From 1915 to 1945
EN 358 – Modern American Fiction
EN 359 – Black American Literature
EN 360 – Old and Middle English Literature
EN 361 – Chaucer
EN 362 – English Drama to the Restoration
EN 365 – 16th Century Prose and Poetry
EN 366 – Shakespeare
EN 369 – 17th Century Prose and Poetry
EN 370 – Milton
EN 371 – The English Bible as Literature
EN 373 – Restoration and 18th Century Drama
EN 375 – The Augustans
EN 376 – The Age of Feeling
EN 377 – The Rise of the English Novel
EN 379 – The Romantic Movement
EN 380 – Victorian Literature
EN 381 – 19th Century English Novel
EN 383 – Modern British Fiction
EN 385 – The English Essayists
EN 390 – Literary Britain: Tour
EN 480 – Seminar: Studies in English and American Literature
EN 481 – Special Topics
EN 482 – Independent Study

B.A. in Pre Law – English

The requirements for this major are the same as for the English Arts and Sciences major with the addition of a 21 s.h. pre-law interdisciplinary minor.

For the requirements of the pre-law minor students should contact the departmental pre-law adviser.

Minor in English

To minor in English, 15 credits in English are required beyond the General Education requirement of English 101, English 102, and English 201.

B.A. in Journalism

Students interested in a career in advertising, journalsim, or public relations can enroll in this innovative, flexible major. The Journalsim major combines journalism elective courses, the student's choice of a variety of courses from other University departments, plus internships that provide on-the-job experiences.

A student who completes the major is graduated with a B.A. in Journalism. Various related minor fields of study are open, too.

Because journalism itself covers all areas of life, the journalism major covers many areas of study of preparation. Thus, a number of departments are cooperating to make journalism study at IUP a very broad experience.

The following journalism courses are currently available:

EN 105 — Journalism and Mass Media
EN 120 — Newspaper Reporting
EN 208 — The Art of the Film
EN 220 — Advanced Composition
EN 221 — Creative Writing
EN 222 — Journalistic Writing
EN 223 — Photojournalism
EN 235 — Languages of Media
EN 311 — Oral Communication
EN 321 — Feature Writing
EN 323 — Management in Mass Communications
EN 326 — Public Relations
EN 327 — Layout Design and Production
EN 399 — Internship
EN 481 — Special Topics
EN 482 — Independent Study

The following courses are available as free electives:

ART
- Drawing
- Graphic Design

BUSINESS
- Marketing
- Principles of Selling

BUSINESS MANAGEMENT
- Advertising
- Consumer Behavior
- Marketing Research
- Personnel Management
- Training

COMPUTER SCIENCE
- Introduction to Computers

CONTINUING EDUCATION
- Career Planning

CRIMINOLOGY
- General Administration of Justice
- Criminology
- Community Relations

HISTORY
- U.S. Urban History
- Contemporary U.S. History
- Diplomatic History of the U.S. I & II
- History of Women

LEARNING RESOURCES
- Introduction to Radio Broadcasting
- Photography
- Television Production
- Motion Picture Production
- Advanced Motion Picture Production
- Advanced Photography

POLITICAL SCIENCE
- American Politics
- Comparative Government
- News Interpretation
- Legislative Process
- Public Opinion
- Metropolitan Problems
- Constitutional Law & Civil Liberties
- Public Administration
- Contemporary Political Problems
- State and Local Political Systems
- Mass Media in American Politics

PSYCHOLOGY
- Developmental Psychology
- Personality
- Social Psychology
- Industrial Psychology
- Motivation

SOCIOLOGY
- Contemporary Social Problems
- Population Problems
- Modern Social Institutions
- Racial & Cultural Minorities
- The Community
- Industrial Sociology
- Introduction to Social Research
- Social Dynamics
- Social & Cultural Change

SOCIAL SCIENCE
- Studies in Urban and Regional Planning

B.A. in Speech and Theater

In addition to the General Education requirement for English majors (English 101, 102, and 202), requirements for the degree of Bachelor of Arts in Speech and Theater are 30 more credits in English selected from the following list. All courses listed give 3 credits, with the exception of EN 312.

The major in Speech and Theater is required to spend at least one summer in The Summer Theater Workshop during the Pre-Session and Main Session of the summer school. Also, the major in Speech and Theater may elect a minor of at least 15 hours in another field.

EN 205 – The Dramatic Arts
EN 206 – The Nature of Drama
EN 208 – The Art of the Film
EN 211 – History of the Theater
EN 215 – Creative Dramatics and Storytelling
EN 305 – Modern Drama
EN 310 – Oral Interpretation
EN 311 – Oral Communication
EN 312 – Summer Theater Workshop (3-9 cr.)
EN 315 – Fundamentals of Acting
EN 316 – Directing and Play Production
EN 317 – Costume and Make-Up
EN 318 – Stagecraft
EN 319 – Scenic Design and Lighting
EN 320 – Advanced Acting
EN 322 – Playwriting
EN 362 – English Drama to the Restoration
EN 366 – Shakespeare
EN 373 – Restoration and 18th Century Drama

B. S. in Education (English Major)

In addition to the General Education requirements for English majors (English 101, 102, and 202), requirements for the degree of Bachelor of Science in Education with an English major are a minimum of 36 more credits in English, in order to satisfy the requirements for certification. Since English majors do not take a minor, many of them augment the minimal 36-credit program with courses that will prepare them for graduate study in their profession of secondary English teaching.

Of these 36 credits, nine are in required courses, and the remainder may be selected from those listed as follows, of which a maximum of 12 credits may be in journalism, speech, or dramatics courses. Also required is Education 452. All the English courses give three credits except English 390, which gives three or six credits, and English 482, which gives varied credits.

Required:

EN 220 – Advanced Composition (EN 221 or EN 222 may be substituted)
EN 230 – History of the English Language
EN 330 – The Structure of English
EN 452 – The Teaching of English and Communication (not counted in the 36 hours for the major)

English Electives:

EN 102 – Newspaper Reporting
EN 105 – Journalism and the Mass Media
EN 205 – The Dramatic Arts
EN 206 – The Nature of Drama
EN 208 – The Art of the Film
EN 223 – Photojournalism
EN 240 – Classical Literature in Translation
EN 245 – Literature for Adolescents
EN 246 – Contemporary Short Fiction
EN 247 – Poetry and Its Forms
EN 260 – English Literature to the Restoration
EN 261 – English Literature from the Restoration to 1900
EN 305 – Modern Drama
EN 310 – Oral Interpretation
EN 311 – Oral Communication
EN 321 – Feature Writing

EN 331 — Trends in Linguistics
EN 340 — European Literature From the Renaissance to the Twentieth Century
EN 341 — Modern European Literature
EN 345 — Criticism of Contemporary Writing
EN 346 — Contemporary American and British Poetry
EN 350 — American Literature to 1865
EN 351 — American Literature From 1865 to 1915
EN 352 — American Literature From 1915 to 1945
EN 358 — Modern American Fiction
EN 359 — Black American Literature
EN 360 — Old and Middle English Literature
EN 361 — Chaucer
EN 362 — English Drama to the Restoration
EN 365 — 16th Century Prose and Poetry
EN 366 — Shakespeare
EN 369 — 17th Century Prose and Poetry
EN 370 — Milton
EN 371 — The English Bible as Literature
EN 373 — Restoration and 18th Century Drama
EN 375 — The Augustans
EN 376 — The Age of Feeling
EN 377 — The Rise of the English Novel
EN 379 — The Romantic Movement
EN 380 — Victorian Literature
EN 381 — 19th Century English Novel
EN 383 — Modern British Fiction
EN 385 — The English Essayists
EN 390 — Literary Britain: Tour
EN 480 — Seminar: Studies in English and American Literature
EN 481 — Special Topics
EN 482 — Independent Study

B. S. in Education (Communication Major)

This major leads to a teaching certificate in communication in the secondary school. The major takes a basic program covering literature, language, composition, speech, theater, and media and selects one or more specialties from the following: literature, linguistic science, writing, speech, theater.

Independent Study, EN 482 and EN 399, Internship are available in all of the specialties. However, such independent activity is usually reserved for students who are at least halfway through their certification requirements. An exception may be made by the department chairman. The nature of the independent activity depends upon the specialty under which it falls.

Independent activity may be defined as that done independently of a rigidly structured course but not necessarily independently of regular faculty direction and consultation.

A student who wishes to engage in an independent activity under the communication program must obtain permission to do so at the time of Pre-Scheduling (October for the Spring Semester, March for the Fall Semester, and May for the Summer Sessions).

The student must present a proposal for the approval of both his adviser and the department chairman. The proposal will outline in detail the student's plan to engage in independent activity. If the proposal is approved by both the adviser and the department chairman, the student then pre-schedules for EN 482 or 399.

Despite the 124-credit minimum for graduation with a baccalaureate degree at Indiana University of Pennsylvania, the Communication program offers a student the opportunity to develop his skills and knowledge beyond the normal restrictions of the classroom and credit hours. Such opportunity comes in part with the flexibility of the independent

activity, described above. Further opportunities lie in the co-curricular areas (campus newspaper, plays, debate, etc.) for which students under many circumstances could be given appropriate specialties credit. Training and experience outside the University and even prior to admission to the University should be considered in the student's development of Specialties. In short, since the Communication program is designed to prepare teachers of the wide area of communication for the secondary schools of the Commonwealth, the Department recognizes that preparation and training of such teachers should be restricted as little as possible by enforcement of required courses and course credits.

In the end the teacher of communication should be certificated on the basis of course preparation, independent activities, experiences, performances and whatever else contributes to an evaluation of his knowledge and training. A teacher certificated as a communication teacher has fulfilled the Basic Program and has developed one or more of the following Specialties: Literature, Linguistic Science, Writing, Speech, Theater.

The communication teacher then enters his teaching experience with not only a basic knowledge in literature, language, composition, speech, theater, and the media, but with a specialty that gives him confidence to meet an advanced writing class or to direct a play or to advise a newspaper.

COURSE DESCRIPTIONS

EN 050 ENGLISH FOR FOREIGN STUDENTS 3 cr.
Provides foreign students an opportunity to improve their ability to speak and write English. The emphasis is on individualized exercises and assignments.

EN 100 BASIC ENGLISH 3 cr.
Designed to review, strengthen, and further develop the basic English skills necessary for clear and effective communication. Reserved for assignment of selected students.

EN 101 ENGLISH I 4 cr.
Should be taken the first semester at IUP. Course uses readings in nature and history of language, semantic and linguistic analysis, and problems in rhetoric. Seven theme-length expository papers are written, in addition to shorter exercises and a written final examination. Three hour lecture, 1 hour individual instructor-student conference.

EN 102 ENGLISH II 3 cr.
Prerequisite: EN 101.
Analytical reading of various types of nonfictional prose, aimed at enunciating both meaning and techniques by which meaning is manifested. Writing in course consists of three substantial documented papers.

EN 103 INTRODUCTION TO THEATER 3 cr.
Explores place of theater in life of man, with critical appreciation of various arts and skills involved; emphasis on creative function of the audience.

EN 105 JOURNALISM AND THE MASS MEDIA 3 cr.
A critical examination of roles-goals of newspapers, magazines, radio and television as they affect American society socially, politically, and economically. For Journalism majors.

EN 120 NEWSPAPER REPORTING 3 cr.
Open to first and second-year students in any department who either work or aspire to work on University newspaper staff;

includes instruction in writing the news story, preparing copy, interviewing, covering special events and similar reporting activities.

EN 201 ENGLISH III 3 cr.
Prerequisites: EN 101 and 102.
Focuses on analysis of an imaginative literature. Writing consists of two substantial critical papers on themes generated by the reading.

EN 202 INTRODUCTION TO LITERARY ANALYSIS 3 cr.
Offers beginning English majors opportunities to study examples of various approaches to works of literary art and requires them to practice such approaches through writing at least three critical papers.

EN 205 THE DRAMATIC ARTS 3 cr.
Deals with basic problems that confront a director of plays in high school. Course studies principles of play selection, rehearsal procedures, scenic demands, and all other aspects pertinent to a successful production.

EN 206 THE NATURE OF DRAMA 3 cr.
Study of selected plays of various styles and periods, to gain greater understanding and appreciation of art of drama.

EN 208 THE ART OF THE FILM 3 cr.
Concentrates on the film as an artistic medium. Eight to twelve motion pictures are shown during semester and are analyzed in class discussions.

EN 211 HISTORY OF THE THEATER 3 cr.
Study of development of theater, with special emphasis on important plays, people, theaters and technical innovations.

EN 215 CREATIVE DRAMATICS AND STORY TELLING 3 cr.
Through workshop experiences, stresses creative dramatics as a way of teaching for adults, a way of learning for children in both elementary and secondary schools.

EN 220 ADVANCED COMPOSITION 3 cr.
Primarily seeks to improve writing style, particularly in the more utilitarian forms, such as magazine article and personal essay.

EN 221 CREATIVE WRITING 3 cr.
Prerequisite is demonstrated ability and interest in creative writing; may be substituted for EN 220. This is a seminar course in which the kinds of writing done are chosen in line with the special interests and abilities of each student.

EN 222 JOURNALISTIC WRITING 3 cr.
Emphasis on intelligent use of writing ability in a journalistic style, and understanding of the "why" of journalism and mass media. May be substituted for EN 220.

EN 223 PHOTOJOURNALISM 3 cr.
Introduction to still photography for news media. Includes preparation of portfolio and learning of specialized processing techniques for high-speed work. For Journalism majors.

EN 230 THE HISTORY OF THE ENGLISH LANGUAGE 3 cr.
Studies historical development of the English language, as a basis for a better understanding of modern American English.

EN 235 LANGUAGES OF MEDIA 3 cr.
Introductory course in nature of language and communication, heavily grounded in practice of communication in various media which resources of university make available to student.

EN 240 CLASSICAL LITERATURE IN TRANSLATION 3 cr.
Masterpieces studied range from those of ancient Greece to Middle Ages. English literature and American literature excluded.

EN 245 LITERATURE FOR ADOLESCENTS 3 cr.
Surveys poetry, drama and fiction with which the adolescent is familiar through his school work and his personal reading.

EN 246 CONTEMPORARY SHORT FICTION 3 cr.
Attention given to form, structure, and art of the modern short story, British, American, and Continental.

EN 247 POETRY AND ITS FORMS 3 cr.
A study in appreciation of poetry, with special attention to technique of the poet and structure of poetry.

EN 260 ENGLISH LITERATURE TO THE RESTORATION 3 cr.
A survey of major English authors, major works, and major literary genres written from the beginnings of English literature to the Restoration (1660).

EN 261 ENGLISH LITERATURE FROM THE RESTORATION TO 1900 3 cr.
A survey of major English authors, major works, and major literary genres written from the Restoration to 1900.

EN 305 MODERN DRAMA 3 cr.
Reading of plays starts with Ibsen and other Scandinavian dramatists, followed by plays by outstanding Continental, British, and American playwrights.

EN 310 ORAL INTERPRETATION 3 cr.
Emphasizes understanding and appreciation of literature through developing skill in reading aloud.

EN 311 ORAL COMMUNICATION 3 cr.
Fundamental principles of public speaking, audience analysis, interest and attention, selection and organization of speech material.

EN 312 SUMMER THEATER WORKSHOP 3-6cr.
A theater practicum offering credit for practical experience in Theater by the Grove, IUP's semi-professional summer repertory theater.

EN 313 HISTORY OF RHETORICAL THEORY 3 cr.
Survey of rhetorical theory from Greek and Roman through modern times.

EN 314 PERSUASION 3 cr.
Advanced study of problems involved in influencing an audience.

EN 315 FUNDAMENTALS OF ACTING 3 cr.
Gives attention to theory and practice in techniques of acting.

EN 316 DIRECTION AND PLAY PRODUCTION 3 cr.
Affords each student opportunity to select, cast, rehearse, and produce a one-act play.

EN 317 COSTUME AND MAKE-UP 3 cr.
Deals with practical application of straight and character makeup; emphasis on costuming to show how mood and illusion can be created through proper selection of style, color and texture of materials.

EN 318 STAGECRAFT 3 cr.
Study and practice in all aspects of backstage technical craft.

EN 319 SCENIC DESIGN AND LIGHTING 3 cr.
Prerequisite: At least one course in dramatic literature and some experience in stagecraft.
Theories and techniques of designing and lighting stage settings.

EN 320 ADVANCED ACTING 3 cr.
Prerequisite: EN 315.
Involves study and practice in problems of period and style acting.

EN 321 FEATURE WRITING 3 cr.
Designed for student who might work in journalism or who might wish to write on a part-time or free-lance basis.

EN 322 PLAYWRITING 3 cr.
Prerequisites: One course in dramatic literature, and consent of instructor.

A course providing time, place, advice and intelligent criticism for those interested in writing for the stage.

EN 323 MANAGEMENT IN MASS COMMUNICATIONS 3 cr.
Attention given to the process of advancement to management positions in journalism. For Journalism majors.

EN 324 CREATIVE WRITING II 3 cr.
Prerequisite: EN 221.
A workshop for students who wish to write fiction or poetry under guidance of instructor.

EN 325 ADVANCED COMPOSITION II 3 cr.
Prerequisite: EN 220
Workshop and tutorial atmosphere for students who intend to write or teach writing.

EN 326 PUBLIC RELATIONS: PRINCIPLES & PRACTICES 3 cr.
Explores functions of Public Relations in detail.

EN 327 LAYOUT DESIGN AND PRODUCTION 3 cr.
Provides basic techniques and theories of layout design and production, including typography, headlines, copyfitting, newspaper design and layout, photo cropping, etc.

EN 330 THE STRUCTURE OF ENGLISH 3 cr.
Training in analysis of American-English Language, with structural and generative approaches to system of grammar emphasized. Course is a prerequisite for Ed 452, Teaching of English and Speech in the Secondary School.

EN 331 TRENDS IN LINGUISTICS 3 cr.
Explores recent developments in linguistic theory and research.

EN 332 THE DIALECTS OF AMERICAN ENGLISH 3 cr.
Examines relationship of dialectal differences in sounds, structure and vocabulary to geographical and sociological factors.

EN 333 PSYCHO-LINGUISTICS 3 cr.
An introduction to those aspects of the study of language that bear on relationship of thought and behavior; the ways people move from their perception of reality to verbal and non-verbal communication.

EN 340 EUROPEAN LITERATURE FROM THE RENAISSANCE TO THE TWENTIETH CENTURY 3 cr.
Selected European works from Renaissance to twentieth century representing all major genres with exception of the epic.

EN 341 MODERN EUROPEAN LITERATURE 3 cr.
Selected Continental fiction concerned with alienated man and quest for identity in the intellectual climate of pluralism and changing values.

EN 345 CRITICISM OF CONTEMPORARY WRITING 3 cr.
Covers basic texts of literary criticism and relates development of critical concepts to work of influential literary critics of twentieth century. Not open to freshmen and sophomores.

EN 346 CONTEMPORARY AMERICAN AND BRITISH POETRY 3 cr.
Study of British and American poetry since World War II.

EN 350 AMERICAN LITERATURE TO 1865 3 cr.
Provides a study of major American writers from colonial times to the Civil War.

EN 351 AMERICAN LITERATURE FROM 1865 to 1915 3 cr.
Emphasis on in-depth study of masterpieces of American literary Realism and Naturalism, in both fiction and poetry.

EN 352 AMERICAN LITERATURE FROM 1915 to 1945 3 cr.
A study of major writers and major works in American literature between World War I and World War II.

EN 358 MODERN AMERICAN FICTION 3 cr.
Major American writers of fiction since 1945 are considered.

EN 359 BLACK AMERICAN LITERATURE 3 cr.
Analyzes significant Black American literature of a variety of types — autobiography, essay, fiction, poetry.

EN 360 OLD & MIDDLE ENGLISH LITERATURE 3 cr.
Study of Old English includes a reading of both prose and poetry, whereas the reading in Middle English is limited to major works of poetry, excluding Chaucer's.

EN 361 CHAUCER 3 cr.
Studies Chaucer, his life, his language, the development of his literary style and his art, with and through his major poetical works.

EN 362 ENGLISH DRAMA TO THE RESTORATION 3 cr.
Traces development of English drama from 900 A.D. to closing of theaters in 1642, but does not include plays of Shakespeare.

EN 365 SIXTEENTH-CENTURY PROSE & POETRY 3 cr.
Covers English literature from late Middle Ages to High Renaissance.

EN 366 SHAKESPEARE 3 cr.
Studies Shakespeare's development as a poetic dramatist against background of Elizabethan stage; examines audience, textual problems, language imagery, and philosophy.

EN 369 SEVENTEENTH-CENTURY PROSE & POETRY 3 cr.
Covers English Literature from death of Elizabeth to 1660; examines work of such poets as Donne, Jonson, Herbert, and Marvell, and such prose stylists as Bacon, Burton, and Browne.

EN 370 MILTON 3 cr.
Consists of a close reading of English poems of John Milton, with particular attention to *Paradise Lost* and *Samson Agonistes.*

EN 371 THE ENGLISH BIBLE AS LITERATURE 3 cr.
Considers literary aspects of English Bible by relating earlier translations to the Authorized Version of 1611 and by tracing some of the major influences of King James Bible upon writers and speakers of modern English.

EN 373 RESTORATION & 18th CENTURY DRAMA 3 cr.
Emphasizing critical theory and social implication of English drama from 1660-1780, concentrates on great comedies of manners of Etherege, Congrave, Wycherly, and Sheridan.

EN 375 THE AUGUSTANS 3 cr.
Examines in some detail the major poems of Dryden and Pope, major prose of Swift, Addison and Steele, and selected works of a few minor writers.

EN 376 THE AGE OF FEELING 3 cr.
Emphasizes art and criticism of Samuel Johnson, as revealed in his writings and Boswell's *Life.*

EN 377 RISE OF THE ENGLISH NOVEL 3 cr.
Surveys development of English novel from its forerunners through fiction of Gothic romanticists and Jane Austen.

EN 379 THE ROMANTIC MOVEMENT 3 cr.
Examines basic tenets of Romantic philosophy in major writings of period from 1780-1832 — poetry, the essay, and fiction.

EN 380 VICTORIAN LITERATURE 3 cr.
Examines essays, novels, and poetry of second half of nineteenth century, with special consideration of criticism they offer of political, economic, social, and religious practices and creeds of Victorian England.

EN 381 NINETEENTH CENTURY ENGLISH NOVEL 3 cr.
Traces historical and technical development of novel from Scott to Hardy.

EN 383 MODERN BRITISH FICTION 3 cr.
Covers important twentieth century novels — including works by Conrad, Lawrence and Joyce — from about 1900 to recent times.

EN 385 THE ENGLISH ESSAYISTS 3 cr.
Considers major essayists, both as members of and influences on society of their time.

EN 390 LITERARY TOUR: BRITAIN 3 cr. or 6 cr.
Offered each summer, either for three weeks during Pre-Session or for six weeks during Main Session. Visits London, Stratford, and Cambridge or Oxford, as well as other places important in English literature.

EN 399 INTERNSHIP 3-12 cr.
On-the-job training opportunities in journalism and related areas.

EN 480 SEMINAR: STUDIES IN ENGLISH & AMERICAN LITERATURE 3 cr.
A seminar in English or American literature, the special topic to be chosen by the instructor. Open to junior and senior English majors.

EN 481 SPECIAL TOPICS 2-3 cr.
These courses vary from semester to semester, covering such diverse topics as autobiography, science fiction, folklore, the political novel, black theater, journalism specialities. etc.

EN 482 INDEPENDENT STUDY 1-6 cr.
Opportunities for independent study that goes beyond the usual classroom activities. Approval of department chairman required.

ED 452 TEACHING OF ENGLISH & COMMUNICATION IN THE SECONDARY SCHOOL 3 cr.
Prerequisite: EN 330.
This course is a prerequisite to student teaching in English. Introduces student to current professional practices in the teaching of English and communication in high school.

FOREIGN LANGUAGES

Foreign Language study is offered by the Department of German–Russian and the Department of Romance and Classical Languages. Majors in French, German, Latin, Russian, and Spanish are available as well as classes in elementary and intermediate Greek and Latin. Courses in Self-Instruction in Critical Languages which provide for study in twenty African, Asiatic and European languages including Japanese, Chinese, Arabic, Hebrew and Portuguese are also available.

Students who major in a language will acquire an active skill in all phases of that language and enter more deeply into its history, culture and literature. They will also gain some knowledge of its linguistic development throughout the centuries. Language specialists are destined for careers in government work, librarianship, journalism, foreign trade, airlines, tourism, business, and teaching. Students who choose careers as secondary school teachers will find the close supervision and advanced methodology offered by the departments a distinct asset. Students also may elect to do further graduate work in their language, thereby enhancing their high school teaching careers or preparing themselves for a career in college teaching.

Degrees offered are the Bachelor of Arts in the selected language, the Bachelor of Science in Education in the selected language, and the Master of Education and Master of Arts in Spanish and German. In addition to major concentrations, an 18-credit sequence may be chosen for the area of concentration required for a degree in Elementary Education, or a 21-credit sequence to satisfy the requirements for a minor. Both Arts and Sciences and Education students in Romance and Classical Languages and in German and Russian are required to take HI 101-102, History of Civilization I and II.

GENERAL EDUCATION LANGUAGE REQUIREMENTS

Students in the School of Arts and Sciences, who must pass a second year language course (FL 251 and 252) as one of the School's requirements for graduation, may choose any one of the six languages offered. The six credits for these courses are part of the General Education requirement. Self-instruction in Critical Languages does not fulfill the General Education requirement, but may be counted as a general elective. The student with no previous foreign language study will take FL 151-152 (three credits each) as prerequisites; the credits will not be applicable to any School or department requirements, but may be counted as general electives in the total required for graduation. Generally, the student should program in accordance with previous school or practical background according to the schedule:

1 year of high school, or equivalent, equals FL 151
2 years of high school, or equivalent, equals FL 152
3 years of high school, or equivalent, equals FL 251
4 years of high school, or equivalent, equals FL 252

Individual placement may be requested by the student, in which case the pertinent factors regarding preparation will be weighed by the department, with the student's individual requirements and the judgment of classroom instructors also being considered.

CURRICULA

Core Program

Basic requirements for all majors and minors in any foreign language are credits for Foreign Language I and II (FL 151 and 152) and Oral Practice I and II (FL 051 and 052). For students wishing to major in Latin, Greek 151 and 152 are substituted for FL 051 and 052. These credits may be obtained by course work at the University, or by advanced placement owing to previous high school or other work in the language or special examination.

B.A. in the Specified Language

The requirement for the degree of Bachelor of Arts in the specified language is 36 credits in the chosen language above the first year level, as follows:

Foreign Language

FL 251-252 — Language III and IV	6 credits
FL 053-054 — Oral Practice*	4 credits
FL 351-352 — Advanced Language I and II	6 credits
FL 055-056 — Advanced Oral Practice I and II*	2 credits
FL 361-362 — Development of Culture and Literature I and II**	6 credits
FL Electives	12 credits

*Students majoring in Latin will replace FL 053 and 054 with Greek 251 and 252 and omit the FL 055 and 056 requirement.

**Students majoring in Spanish may select the sequence 361-362 or 363-364. Upon completion of either sequence, either course from the other sequence may be selected.

The language major who takes first year courses FL 151-152 should take FL 051-052 concurrently.

B. S. in Education (Foreign Language Major)

The requirement for the degree of Bachelor of Science in Education with a foreign language major is a minimum of 33 credits in the major language above the first year level and, in addition, three credits in the Teaching of Foreign Language in the Secondary School (ED 453), for a total of 36 credits. Also, a proficiency examination in the major language chosen and a semester of supervised student teaching is necessary before certification is granted.

Foreign Language

FL 251-252 — Language III and IV	6 credits
FL 053-054 — Oral Practice*	4 credits
FL 351-352 — Advanced Language I and II	6 credits
FL 055-056 — Advanced Oral Practice I and II**	2 credits
FL 361-362 — Development of Culture and Literature I and II**	6 credits
FL Electives	9 credits

*Students majoring in Latin will replace FL 053 and 054 with Greek 251 and 252 and omit the FL 055 and 056 requirement.

**Students majoring in Spanish may select the sequence 361-362 or 363-364. Upon completion of either sequence, either course from the other sequence may be selected.

Education

ED 453 — Teaching of Foreign Language in the Secondary School	3 credits

An Education language major may be certified in a second language, if he wishes, by taking the following sequence:

FL 251-252	6 credits
FL 053-054*	4 credits

FL 351-352	6 credits
FL 055-056*	2 credits
FL 361-362	6 credits

A student in Elementary Education may elect a concentration of 18 hours of a foreign language, consisting of the following:

FL 251-252	6 credits
FL 053-054*	4 credits
FL 351-352	6 credits
FL 055-056*	2 credits

*Students majoring in Latin will replace FL 053 and 054 with Greek 251 and 252 and omit the FL 055 and 056 requirement.

Minor in Foreign Language

A minor in a foreign language consists of 21 credits, as follows:

FL 251-252	6 credits
FL 053-054*	4 credits
FL 351-352	6 credits
FL 055-056*	2 credits
FL 361	3 credits

*Students majoring in Latin will replace FL 053 and 054 with Greek 251 and 252 and omit the FL 055 and 056 requirement.

DEPARTMENT OF GERMAN AND RUSSIAN LANGUAGES

EDITH CORD, CHAIRPERSON: BRODE, OMRCANIN, READY, ROFFMAN, SOMMER, VOELKER, WILLIAMS

COURSE DESCRIPTIONS

German and Russian Courses

GM 151-152 GERMAN I AND II — 3 cr. each
RU 151-152 RUSSIAN I AND II

Designed for beginning student who will complete a two semester course only. Basic syntax and simple, functional vocabulary stressed, using texts containing reading materials based on culture of language areas involved.

GM 051-052 ORAL PRACTICE I AND II — 2 cr. each
RU 051-052 ORAL PRACTICE I AND II

Using lab approach and lab-type class paralleling above courses, stresses pattern drills, phonetics, exact pronunciation, and oral composition.

GM 251-252 GERMAN III AND IV — 3 cr. each
RU 251-252 RUSSIAN III AND IV

Designed primarily for students with one year of college or two-three years of high school (or equivalent) background. Course reviews grammar, utilizing texts based on a cultural approach to study of a people and their language.

GM 053-054 ORAL PRACTICE III AND IV — 2 cr. each
RU 053-054 ORAL PRACTICE III AND IV

Taken by majors to continue the development of previous skills, these courses parallel 251 and 252.

Elective Courses in German

GM 253 INTERMEDIATE COMPOSITION AND CONVERSATION — 3 cr.

Can be taken instead of or in addition to 252. Designed for majors or serious students. Offered in spring only.

GM 256 SCIENTIFIC GERMAN 3 cr.
Designed to substitute for German 252, will be offered in the second semester. Primarily for science majors, it may be taken as an elective by German majors.

GM 351-352 ADVANCED GERMAN LANGUAGE I AND II 3 cr. each
Reviews and supplements the skills derived from earlier courses, taught in German using single language texts, hence preparing student for future studies in grammar and stylistics.

GM 055-056 ADVANCED ORAL PRACTICE 1 cr. each
Relatively informal courses, supplementing preceding sequence. Designed to increase speaking ability, the courses involve discussions of cultural differences between countries. The largely unstructured approach permits repeating of these courses.

GM 361-362 DEVELOPMENT OF GERMAN CULTURE AND LITERATURE 3 cr. each
Examines historical and cultural aspects of countries involved, reviews their characteristic contributions throughout the centuries, and analyzes relationship of each literary movement to age that produced it.

GM 363-364 INTRODUCTION TO GERMAN LITERATURE I AND II 3 cr. each
Selected readings in German poetry, drama, and fiction, to acquaint student with some techniques for intelligent understanding and formal criticism of works of literature.

GM 367 NINETEENTH CENTURY GERMAN LITERATURE 3 cr.

GM 368 TWENTIETH CENTURY GERMAN LITERATURE 3 cr.

GM 369 CONTEMPORARY GERMAN LITERATURE 3 cr.

GM 370-371 THE AGE OF GOETHE I AND II 3-6 cr.

GM 381 GERMAN DRAMA IN ENGLISH TRANSLATION 3 cr.
Representative works of major dramatists studied in English translation. Primarily intended for students of English literature, comparative literature, and not considered as credit toward a German major.

GM 480-489 SPECIAL TOPICS IN GERMAN LANGUAGE OR LITERATURE 1-3 cr.
Devoted to a special aspect of German language or literature. May be arranged for individual or group study. Permission of Department required.

GM 391 SPECIAL PROJECTS IN GERMAN LITERATURE 1-3 cr.
Devoted to a special aspect or figure of German literature, this semester-type course may be arranged on an individual or group basis.

GM 410 HISTORY OF THE GERMAN LANGUAGE 3 cr.
History and development of German Language, with special emphasis on relationships with English. Analysis of annals in Gothic, Old High German, and Middle High German using methods of historical and contemporary linguistics.

ED 453 TEACHING OF FOREIGN LANGUAGE IN THE SECONDARY SCHOOL 3 cr.
Prerequisite: Successful completion of the sequence 351-352 and 055-056 in the student's major language; passing a language proficiency examination, or permission of instructor.

GM 499 INTERNSHIP IN GERMANY 3-12 cr.
Prerequisite: German 352 or equivalent
A supervised field experience in Germany with approved public agencies and institutions or private firms; no longer than one semester and no less than one month. Positions will be matched as closely as possible with the Intern's personal interests and his degree of proficiency in the German language. Academic work at the Gesamthochschule in Duisburg may precede or follow the Intern-

ship. Open to students in other disciplines, such as Political Science, International Relations, Business, etc., with their adviser's approval.

Elective Courses in Russian

RU 351-352 ADVANCED RUSSIAN LANGUAGE I AND II — 3 cr. each

Conducted entirely in Russian for students with two years of college Russian, advanced grammar, composition, reading, and oral self-expression on a variety of topics.

RU 055-056 ADVANCED ORAL PRACTICE I AND II — 1 cr. each

For students with two years of college Russian, advanced oral expression on readings, current events and more abstract themes.

RU 361-362 DEVELOPMENT OF RUSSIAN CULTURE AND LITERATURE I AND II — 3 cr. each

Readings, discussions and lectures in Russian on the course of Russian civilization; open to students with two years of college Russian or equivalent.

RU 367-368 NINETEENTH CENTURY RUSSIAN LITERATURE I AND II — 3-6 cr.

Reading selections from masterpieces of 19th century Russian fiction; reports, discussions, compositions, and analysis of language; conducted entirely in Russian.

RU 369-370 TWENTIETH CENTURY RUSSIAN LITERATURE — 3-6 cr.

Analysis of contemporary Russian language as used by various Soviet writers in fiction and periodical literature; conducted entirely in Russian. Students will do independent reading of Soviet novels in English.

RU 371 RUSSIAN POETRY — 3 cr.

Reading of selected lyric poets of 19th and 20th centuries, with particular emphasis on development of modern Russian; conducted entirely in Russian.

RU 372 RUSSIAN DRAMA — 3 cr.

Reading and listening to selected plays of 19th and 20th centuries in an attempt to understand and master the idiom of conversational Russian; conducted entirely in Russian.

RU 480-489 SPECIAL TOPICS IN RUSSIAN LANGUAGE OR LITERATURE — 1-3 cr.

Devoted to a special aspect of Russian language or literature. May be arranged for individual or group study. Permission of department required.

DEPARTMENT OF ROMANCE AND CLASSICAL LANGUAGES

LUDO OP DE BEECK, CHAIRPERSON: CARRANZA, DRESCHER, FAUST, FISEL, A. M. GUARDIOLA, A. P. GUARDIOLA, HENRY, ISAR, JONES, LANDIS, LISCINSKY, LOZADA, MENDIZABAL, MILTZ, PHILLIPS, SHIELDS, SORENTO, SPIEKER, WHITMER

COURSE DESCRIPTIONS

FR, GK, LA, SP 151-152 FRENCH, GREEK, LATIN, SPANISH I AND II 3 cr. each

For beginning student; pronunciation, reading, oral and written communication are the objectives. Majors take 051 and 052 concurrently with 151 — 152.

FR, SP 051 — 052 ORAL PRACTICE I AND II 2 cr. each

Two hours weekly oral practice in small group, to improve pronunciation and response through basic drill.

FR, GK, LA, SP 251-252 FRENCH, GREEK, LATIN, SPANISH III AND IV 3 cr. each

Continued training in basic skills, with possible addition of study of specific topics; consult the department for topics of interest. Majors take 053 — 054 (Or 051 — 052) concurrently.

FR, SP 053 — 054 ORAL PRACTICE III AND IV 2 cr. each

Improves oral skills to a higher level, through conversation and discussion.

FR, GK, LA, SP 351-352 ADVANCED FRENCH, GREEK, LATIN, SPANISH LANGUAGE I AND II 3 cr. each

Reviews grammar in depth; analyzes the structure of the language; frequent themes required. Majors take 053 — 054, or 055 — 056 concurrently.

FR, SP 055 — 056 ADVANCED ORAL PRACTICE I AND II 1 cr. each

Informal advanced conversation; meets twice weekly.

FR 361 — 362 DEVELOPMENT OF FRENCH CULTURE AND LITERATURE I AND II 3 cr. each

SP 361 — 362 DEVELOPMENT OF SPANISH CULTURE AND LITERATURE I AND II 3 cr. each

SP 363 — 364 DEVELOPMENT OF SPANISH-AMERICAN CULTURE AND LITERATURE I AND II 3 cr. each

Study of the historical and cultural aspects of countries involved; review of their function in the world over the centuries; analysis of the literary schools and evolution.

Elective Courses in French

FR 253 INTERMEDIATE COMPOSITION AND CONVERSATION 3 cr.

Given according to demand and staff availability.

FR 254 COMMERCIAL FRENCH 3 cr.

Prerequisite: FR 251 or equivalent.

Commercial letter writing, use of technical language, survey of special business practices and methods of French-speaking commercial systems and problems of translation are studied.

FR 363 MEDIEVAL AND RENAISSANCE LITERATURE 3 cr.

FR 365 SEVENTEENTH CENTURY FRENCH LITERATURE 3 cr.

FR 366 EIGHTEENTH CENTURY FRENCH LITERATURE 3 cr.

FR 367 NINETEENTH CENTURY FRENCH LITERATURE 3 cr.

FR 368 TWENTIETH CENTURY FRENCH LITERATURE 3 cr.
Designed to present general surveys of literature of respective periods, with due consideration to social factors and events behind them.

FR 371 THE FRENCH NOVEL 3 cr.
Elective survey of the origin and development of French Novel. A selected list of works representative of major forms are read in their entirety.

FR 372 STUDIES IN CONTEMPORARY FRENCH LITERATURE 3 cr.
Content of this course will vary in accordance with needs and interests of those who elect it.

FR 461 STRUCTURES OF FRENCH AND ENGLISH 3 cr.
Modern methods of linguistic analysis applied to a study of French syntax; transformational, distributional and traditional models serve to explain mechanisms of the language with a pedagogical intent.

FR 482 INDEPENDENT STUDY 1-3 cr.

Elective Courses in Latin

LA 361 DEVELOPMENT OF ROMAN CULTURE AND LITERATURE 3 cr.

LA 362 LATIN CONVERSATION AND COMPOSITION 3 cr.
Aims at the ability to speak Latin on a conversational level and to write grammatically correct Latin prose.

LA 371-372 SURVEY OF LATIN LITERATURE I AND II 3 cr.
This course sequence will give a comprehensive view of Latin literature from Ennius to the Middle Ages.

Elective Courses in Spanish

SP 253 INTERMEDIATE COMPOSITION AND CONVERSATION 3 cr
Given according to demand and staff availability.

SP 254 COMMERCIAL SPANISH 3 cr.
Prerequisite: SP 251 or equivalent.
Practice with letter writing, technical business terms, and methods of translation.

SP 365 SPANISH LITERATURE BEFORE 1650 3 cr.

SP 367 NINETEENTH CENTURY SPANISH LITERATURE 3 cr.

SP 368 TWENTIETH CENTURY SPANISH LITERATURE 3 cr.
Present general surveys of literature of respective periods, with due consideration to social factors and events behind them.

SP 370 GOLDEN AGE DRAMA 3 cr.
Traces the development of Spanish theater and examines its artistic and spiritual flowering in Baroque period.

SP 371 THE SPANISH NOVEL 3 cr.
After a brief survey of origins and trends of the Spanish novel, major stress is given to the Nineteenth Century Novel and the Generation of 98.

SP 376 SPANISH-AMERICAN LITERATURE 3 cr.
Following a consideration of the salient tendencies of Spanish-American Literature, this course may take the form of a comprehensive survey, or it may concentrate its attention upon the novel of social thesis.

SP 390 SPANISH IN THE ELEMENTARY SCHOOL 3 cr.
Prerequisite: Spanish 251-252 or equivalent.
The prospective teacher of Spanish on the elementary level is

introduced to materials suitable for Grades 1 through 6. Preparation of games, songs, poems, and story telling included.

SP 480 BUENOS AIRES SEMINAR 3 cr.
SP 481 SPECIAL TOPIC 3 cr.
Designed to meet special needs of a student group.

SP 482 INDEPENDENT STUDY 1-3 cr.

Linguistics

FL 421 LANGUAGE AND SOCIETY 3 cr.
The student considers salient facts of language and its role in society and culture. Language families, linguistic change, and reciprocal influences of culture and language are presented.

FL 485 SELF–INSTRUCTION IN CRITICAL LANGUAGES
Recorded materials and texts are available for independent study of uncommonly-taught languages. Prerequisite: Foreign Language requirement and Language Aptitude test. Examples: Portuguese, Arabic, Hungarian, Chinese, Japanese, Hebrew. Contact the coordinator in Romance Languages.

Education

ED 453 TEACHING OF FOREIGN LANGUAGES IN THE SECONDARY SCHOOL 3 cr.
Prerequisite: Successful completion of 351-352 and 055-056 in the student's major language; passage of a language proficiency examination or permission of the instructor.
Methods and material for secondary school teaching, current theories and techniques, and illustrative units are studied. One period per week spent in study of the use of the language laboratory.

GEOGRAPHY AND REGIONAL PLANNING DEPARTMENT

MAURICE M. ZACUR, CHAIRPERSON: BALLAS, CHAMBERS, GAULT, HEIDEN, KULKARNI, MILLER, PAYNE, SHIREY, TEPPER, WEBER, WINSLOW, WOOD

The function and purpose of geography is to prepare the future citizen to make rational judgments in his private and public life as it relates to the use of natural and cultural resources. Geography also acts as a meaningful integrator of the many subject-matter areas taken by the student.

Though geography is listed as social science in Arts and Sciences curricula, it is of broader scope. Geography includes physical geography (earth science), cultural geography, economic geography, urban and regional planning, or combines these for a broad understanding of man in his total environment.

Vocational opportunities in Geography and Regional Planning are good. Students will find a wide variety of positions in government service, marketing, urban and regional planning, armed forces map services, editorial positions and business.

Three programs for a major are offered by the department: (1) the Bachelor of Science in Regional Planning, (2) the Bachelor of Arts in Geography (Physical, Regional, Urban, or Cultural-Economic), and (3) the Bachelor of Science in Education with a major in Social Sciences, concentrating on Geography. The first two degree programs are under the

School of Arts and Sciences, and the third is under the School of Education.

CURRICULA

Bachelors Degree Programs in Geography or Regional Planning

A student desiring a Bachelors degree may elect either of two programs: Geography (specializing in Cultural-Economic Geography, Physical Geography, Urban Geography and Planning, or Regional Geography); or Regional Planning.

In either case, requirements for the major are 36 credits of which 15 credits must be taken as follows:

Core Program for Bachelor's Degree (Arts & Sciences)

GE 149	Economic Geography	3 cr.
GE 154	Cultural Geography	3 cr.
GE 240	Climatology I	3 cr.
GE 246	Physiography	3 cr.
GE 491	Geography Thought and Philosophy	3 cr.

B. A. Degree in Geography

In addition to the 15 Geography credits required in the Core Program, 21 more credits must be elected in Geography, including GE 251 – Geography of United States and Canada.

It is suggested that the student concentrate his electives as grouped for a specialization as shown in the section on Course Descriptions.

B. S. Degree in Regional Planning

This is a professional program for Regional or Urban Planning employment. In addition to the 15 credits required in the Bachelors Core Program, 21 more credits are required, as follows:

GE 479 or 490	Cartography or Map and Photo Interpretation	3 cr.
GE 455	Introduction to Planning	3 cr.
GE 456	Planning: Basic Studies and Analysis	3 cr.
GE 457	Planning: Dev. of Principles and Theory	3 cr.
GE 458	Planning: Design	3 cr.
GE 355	Urban Geography	3 cr.
	Elective in Geography	3 cr.
GE 355	Urban Geography	3 cr.
	Elective in Geography	3 cr.

In addition a 21 s.h. Interdisciplinary minor or a 15-21 s.h. minor in an approved discipline is required. An optional Internship in Planning for 12 s.h. may be elected with faculty approval.

B. S. in Education (Geography Concentrate)

Requirements for the degree of Bachelor of Science in Education with a major in Social Sciences, concentrating on Geography are a minimum of 15 credits in Geography as follows (department recommends 24 s.h. in the concentration):

GE 101	World Geography	3 cr.

GE 149	Economic Geography	3 cr.
	or	
GE 355	Urban Geography	3 cr.
GE 240	Climatology	3 cr.
	or	
GE 246	Physiography	3 cr.
GE 251	Geography of United States and Canada	3 cr.
Regional Geography Electives		6 cr.
Geography Electives		6 cr.

NOTE: GE 101 helps to fulfill the University's General Education requirement.

Minor in Geography

A minor consists of 15 credits of Geography course work, including that taken as General Education. Although a student may elect any combination of the courses listed below, the Department encourages one of the following concentrations: (1) Core Program for Arts and Sciences (suggested for those anticipating graduate work in geography); (2) Physical Geography (suggested for Geo-Science majors); (3) Regional Geography; (4) Cultural-Economic Geography (suggested for Business, Economics, or Sociology majors); or (5) Urban Geography and Urban/Regional Planning (suggested for Sociology, Economics, or Political Science majors).

Minor in Regional Planning

A minor consists of 15 s.h. course work as follows:

GE 455	Introduction to Planning	3 cr.
GE 456	Planning: Basic Studies and Analysis	3 cr.
GE 457	Planning: Dev. of Principles and Theory	3 cr.
GE 458	Planning: Design	3 cr.
GE 355 or 452	Urban Geography or Conservation: Environmental Analysis	3 cr.

Minors having completed 456, 457, and 458 may apply for Internship.

COURSE DESCRIPTIONS

Cultural — Economic Geography

GE 101 WORLD GEOGRAPHY 3 cr.
Understanding and appreciation of man's interrelationship with the earth, accomplished through study of physical, cultural, economic, and demographic factors.

GE 149 ECONOMIC GEOGRAPHY 3 cr.
Designed to promote geographic and economic concepts, methods, and skills pertinent to understanding of spatial variation of production, consumption, and exchange over the earth's surface.

GE 154 CULTURAL GEOGRAPHY 3 cr.
May be taken in lieu of GE 101. Course considers relationship of various ethnic and cultural groups to natural environment. Student is acquainted with tools, philosophy, and literature of cultural geography and related disciplines.

GE 253 GEOGRAPHY AND SOCIETY 3 cr.
Prerequisite: 3 cr. GE.
Designed for elementary and secondary school social science teachers. Concepts such as: spatial arrangement, areal change, earth for support of man, urbanization, biophysical relationships with society, interdependency, the chorological organization of knowledge.

GE 353 GEOGRAPHIC INFLUENCES IN HISTORY 3 cr.
Prerequisite: 3 cr. GE.
Studies relationships of natural environmental factors to settlement, development, and progress of selected countries — with major emphasis on United States.

GE 354 TRADE AND TRANSPORTATION 3 cr.
Embraces analysis, theory, and application techniques; treatment includes trade patterns, place theory, statistics and models; circulation, accessibility, time, and distance concepts.

GE 453 POLITICAL GEOGRAPHY 3 cr.
Prerequisites: 6 cr. GE and 6 cr. Social Science or permission.
Considers evolution of nation-state and a systems-analytic view of geography of international disputes and political geography of United States.

GE 461 REGIONAL FIELD STUDIES 1-3 cr.
Prerequisite: 12 cr. GE.
These trips, which involve the study of a selected area through agencies of travel and actual investigation, are arranged from time to time to suit the needs of the student group.

GE 481 SPECIAL TOPICS IN GEOGRAPHY 3 cr.
Prerequisites: 6 cr. GE and 6 cr. Social Science.
Study of contemporary problems: boundary questions, world trade, world food resources, control and development of natural resources, settlement population problems, etc. Course will vary in topics offered.

GE 482-483 INDEPENDENT STUDY 3-6 cr.
Prerequisite: 18 cr. GE and 3 QPA in GE.
Independent research under faculty direction, by application only.

GE 491 GEOGRAPHY THOUGHT AND PHILOSOPHY 3 cr.
Prerequisite: 12 cr. GE.
Seminar, required, limited to junior or senior Geography majors. Seminar in history of the discipline, great ideas, leading problems, and unresolved issues.

Physical Geography

GE 153 PHYSICAL GEOGRAPHY 3 cr.
Introduces natural factors of landscape, weather, climate, soils, rocks, minerals, structure of earth's crust, oceans; and tools of geography: globes, maps, aerial photographs.

GE 240 CLIMATOLOGY I 3 cr.
Studies elements of weather and climate, and climatic regions of earth; understanding and application are underscored in the laboratory. (Spring semester only.)

GE 241 CLIMATOLOGY II 3 cr.
Prerequisite: GE 240 or Meteorology.
Physical aspects of climatology: heat and water budget, climatic classifications, paleo-climates, regional climates, micro-climates, climatic change, statistical and mathematical models.

GE 246 PHYSIOGRAPHY 3 cr.
Studies form of earth's crust and its associated water bodies; classification, distribution, and processes involved in their geomorphological development and their effects upon the human landscape. (Fall semester only.)

GE 422 AEROSPACE SCIENCE 3 cr.
Treats of atmosphere and space environment; flight problems; satellites and space probes; manned orbital and space exploration projects. Problems of teaching and bibliography will be considered. (Non-majors only). (Summer Pre-Session only.)

GE 452 CONSERVATION — ENVIRONMENTAL ANALYSIS 3 cr.
Prerequisite: 9 cr. GE.
Conservation of natural and human resources, regional understanding, planning, utilization, evaluation, field work, workshop activities, projects.

GE 479 CARTOGRAPHY 3 cr.
Gives an understanding of the compilation and use of maps and develops an ability to construct economic and geographic maps. Use of aerial photographs is treated briefly.

GE 490 MAP AND PHOTO INTERPRETATION 3 cr.
Maps and aerial photographs, along with remote sensing materials, permit inventory and analysis of geologic, land use, urban development, and other landscape phenomena. The understanding of these materials and associated tools for their use is presented.

GE 494 FIELD TECHNIQUES IN GEOGRAPHY 1-3 cr.
Prerequisite: 12 cr. GE or permission.
Proposes to give experience in study of land utilization and use of geographic tools and techniques of the field.

Urban Geography and Planning

GE 355 URBAN GEOGRAPHY 3 cr.
Introduces student to basic principles of urban geography. Concepts of site, situation, location, function, urban land use, central place theory, urban structure, and urban hierarchy introduced. Relationships between urban geography and urban planning emphasized.

GE 455 INTRODUCTION TO PLANNING 3 cr.
Prerequisite: 12 cr. GE and/or Soc Sci or permission.
Examines four phases involved in preparation of a community plan. Items such as land use, natural resources, topography, soils, geology, climate and drainage are utilized in a general comprehensive plan.

GE 456 PLANNING: BASIC STUDIES AND ANALYSIS 3 cr.
Prerequisite: GE 455
Research, analytical design, and plan making techniques in urban regional planning; examines basic items necessary to prepare urban and regional comprehensive plans.

GE 457 PLANNING: DEV. OF PRINCIPLES & THEORY 3 cr.
Prerequisite: GE 455
Examines process of city planning during ancient, medieval, and Renaissance periods. Reviews early planning in America, as well as present planning.

GE 458 PLANNING: DESIGN 3 cr.
Prerequisite: GE 455
Offers student an opportunity to work on various concepts of city and subdivision design, utilizing effects of topography, natural resources and other physical elements upon urban design.

GE 499 REGIONAL PLANNING INTERNSHIP 12 cr.
Prerequisites: 90 s.h. including at least three of the following: GE 455, 456, 457, or 458; or permission. Approval of Internship Screening Committee.
The internship provides practical experience in a planning agency.

Regional Geography (No Prerequisites Required)

GE 251 GEOGRAPHY OF UNITED STATES AND CANADA 3 cr.
Investigation of man's adjustment to his environment as influenced by physical factors of climate, vegetation, relief soils, and natural resources, as well as recognition of cultural factors.

GE 252 GEOGRAPHY OF PENNSYLVANIA 2 cr.
Studies internal and external relationships to gain insight into various regions of the state and Pennsylvania's world relationships.

GE 256 GEOGRAPHY OF EUROPE 3 cr.
Investigates relationships underlying land use, dominant interna-

tional problems, boundary disputes and regional complexes of European continent.

GE 257 GEOGRAPHY OF U.S.S.R. 3 cr.
Special emphasis upon major geographic regions of the Soviet Union; natural resources, cultural patterns, population — both numbers and distribution, strategic areas and related geopolitical problems studied.

GE 261 GEOGRAPHY OF EAST ASIA 3 cr.
Studies Korea, Manchuria, Outer Mongolia, Japan, and China, as well as geographic background for planning solutions for raising standards of living, for wise use and restoration of natural resources, and industrialization.

GE 262 GEOGRAPHY OF SOUTH AND SOUTHEAST ASIA 3 cr.
Studies India, Pakistan, Indochina, Ceylon, Burma, Thailand, and Indonesia with special attention to regional similarities and differences, particularly as they pertain to human adjustment.

GE 263 GEOGRAPHY OF NORTH AFRICA AND SOUTHWEST ASIA 3 cr.
Study of Sahara Desert, Turko-Arabian peninsulas and Afghanistan, emphasizing the critical problems of water supply, land use, over-population, industrialization, resources and relationships of these countries to other countries.

GE 271 GEOGRAPHY OF SOUTH AMERICA 3 cr.
Studies South America, with special emphasis on regional differences and similarities; stresses foreign relations, especially with the United States. The unique problems of South America, with special attention to tropical land use, are considered.

GE 281 GEOGRAPHY OF AFRICA, SOUTH OF SAHARA 3 cr.
A systematic study of the physical, cultural, and historical geography, followed by studies of major regions and nations of Africa, emphasizing political, cultural, and economic factors in the development of that continent.

Education

ED 455 TEACHING OF SOCIAL SCIENCE IN SECONDARY SCHOOLS 3 cr.
Study of modern methods and techniques for teaching Social Science and of current curricula in Social Science.

GEOSCIENCE DEPARTMENT

WALTER H. GRANATA, JR., CHAIRPERSON: CLARK, HALL, PARK, PRINCE, C. SUTTON

The Geoscience Department provides curricula in areas of natural science dealing with and related to the earth and its environment by offering courses in astronomy, geology, meteorology, and oceanography.

In addition to on-campus instruction, opportunities exist for summer course work and research in geology and oceanography at the Marine Science Consortium located at Lewes, Delaware, and Wallops Island, Virginia. (See pages 130–131.) Marine Science courses are described on pages 130–131.

Degrees offered by the Geoscience Department are the Bachelor of Science in Geology, the Bachelor of Science in Geoscience, and the Bachelor of Science in Education with a major in Earth and Space Science or with a major in General Science. The first three degree programs are under the School of Arts and Sciences, and the last two are under the School of Education.

The Department also will act in an advisory capacity for students enrolled in the proposed B.S. in Natural Science with concentrations in either Astronomy or Meteorology-Oceanography. These degree programs are designed to prepare students for graduate work in the aforementioned disciplines.

CURRICULA

The B.S. degree in Geology is, in a sense, a dual purpose degree program. Not only is it designed to graduate well trained, competent geologists, able to compete for positions as professional geologists in the job market; but it is also designed so as to provide the student with the necessary allied science and math background to enable the good student to qualify for admission to the Graduate School of his choice in Geology.

The B.S. degree in Geoscience offers the student a broad-based science background. In addition to the 38 hours of Geoscience (Astronomy, Geology, Meteorology, Oceanography) the student will also acquire a strong background in Math and the Allied Sciences of Chemistry, Biology and Physics. The student who earns the B.S. degree in Geoscience may anticipate career openings in government or private industry in those expanding fields directly associated with environmental studies. The B.S. in Geoscience will also prepare the student for admission to graduate study, should he choose to pursue his academic preparation beyond the undergraduate level.

The department recognizes as one of its functions the role of serving the field of public education by the preparation of qualified and certified teachers of earth and space science. Also, because of the interdisciplinary nature of both the department and the requirements for preparing general science teachers, the department administers the program designed to lead to general science certification and includes majors of that category as department members.

Minor in Geology

The minor in geology consists of 15 semester hours of geology. General Geology I and II are required. The remaining 7 hours of geology may be selected by the student. It is recognized that the anthropology student minoring in geology would benefit from courses differing in content from those benefiting students who, for example, are majoring in Urban Planning. The department staff members will be happy to consult with students concerning their special needs.

Minor in Geoscience

The requirement for the minor in Geoscience will be 16 credit hours of geoscience, taken within the following framework. Student must complete one course in each discipline within the department: Astronomy 3 credits; Geology 4 credits; Meteorology 3 credits; Oceanography 3 credits, for a total of 13 credits. The additional 3 credits can be taken in any one of the aforementioned disciplines. It is further stipulated that neither the non-major General Astronomy or the Geology of Pennsylvania courses will be acceptable toward the minor in Geoscience.

DEGREE PROGRAMS

B.S. in Geology

The departmental requirements for the Degree of Bachelor of Science in Geology are as follows:

Geology	35 cr.*
Geoscience	3 cr.
Math	7-8 cr.
Chemistry	8 cr.
Physics	8 cr.
Electives	24-25 cr.

*Includes a summer field course of 5 cr.

Detailed program description available in Geoscience Department

B.S. in Geoscience

The departmental requirements for the degree of Bachelor of Science in Geoscience are as follows:

Geoscience (Selected under advisor's supervision)	38 cr.
Math	7-9 cr.
Biology	12-14 cr.
Chemistry	8 cr.
Physics	8 cr.
Electives	9-13 cr.

Detailed program description available in Geoscience Department

B. S. in Education (Earth and Space Science Major)

The departmental requirements for the degree of Bachelor of Science in Education with a major in Earth and Space Science are as follows, including 33 credits in Geoscience:

Astronomy	7 cr.
Geology	14 cr.
Meteorology	6 cr.
Oceanography	6 cr.
Math	4 cr.

Biology	4 cr.
Chemistry	8 cr.
Physics	4 cr.

Detailed program description available in Geoscience Department

B. S. in Education (General Science Major)

A major in another science department may be certified in General Science if his program includes, or is supplemented with, the prescribed credits, as follows and 13 credits in Geoscience:

Astronomy	3 cr.
Geology	3-4 cr.
Geoscience Field course	3-4 cr.
Meteorology	3 cr.
Math	4 cr.
Biology	8 cr.
Chemistry	8 cr.
Physics	8 cr.
Science Elective	3 cr.

Detailed program description available in Geoscience Department

COURSE DESCRIPTIONS

GS 110 GENERAL ASTRONOMY 3 cr.
Specifically designed to introduce students to discipline of astronomy; emphasis placed on study of planets, space program, constellations, and Milky Way. Two hours lecture, one laboratory session or night observation per week. No science or math majors except those completing general science certification requirements.

GS 120 GEOLOGY OF PENNSYLVANIA 3 cr.
A general course dealing with basic geologic principles, using various geologic provinces and features of Pennsylvania as examples. For non-majors only. Two hours lecture, 3 hours lab per week.

GS 121 GENERAL GEOLOGY I 3 cr.
Introduction to science of earth; properties and processes of earth's interior and crust and their interaction with surface processes to shape and modify man's physical environment. Three hours lecture per week.

GS 122 GENERAL GEOLOGY II 3 cr.
Prerequisite: GS 121 or permission of instructor.
Introduction to history of earth, its physical changes and sequences of configuration, and record of biological evolution. Three hours of lecture per week.

GS 131 GENERAL GEOLOGY I LABORATORY 1 cr.
Should be taken concurrently but may follow GS 121.
Identification of common minerals and rocks; introduction to topographic and geologic maps, to land forms, and to geologic structures. Three hours lab per week, including field trips.

GS 132 GENERAL GEOLOGY II LABORATORY 1 cr.
Should be taken concurrently but may follow GS 122.
Selected problems in geologic map interpretation, paleontology, and stratigraphic rock sequences. Three hours lab per week, including field trips.

GS 213 NAVIGATION 3 cr.
Thorough grounding in meanings of terms used in navigation, in purposes and use of navigational instruments and publications and in theory and general methods of piloting, dead reckoning and

electronic and celestial navigation. Two hours lecture, 2 hours lab per week.

GS 321 MINERALOGY 3 cr.
Prerequisite: GS 121 or Chem 111.
Concerned with properties of minerals; introduction to crystallography and chemistry of crystals, followed by a determination of minerals and their probable genesis. Two hours lecture, 3 hours lab per week.

GS 322 PETROLOGY 3 cr.
Prerequisite: GS 321.
Concerned with a description of rock character based upon mineral components and physical relationship between mineral components of a rock. Two hours lecture, 3 hours lab per week.

GS 324 GLACIAL GEOLOGY 3 cr.
Prerequisites: GS 121 and GS 122.
Study of origin and development of all features resulting from action of glaciers. Two hours lecture and a laboratory or field trip per week.

GS 325 STRUCTURAL AND FIELD GEOLOGY I 3 cr.
Prerequisite: GS 122 or permission of instructor.
Analysis of deformation structures such as folds, joints, faults, foliation and lineation. Includes lab and field work with geologic maps, cross sections, Brunton compass, stereographic projections, and field reports on structures observed in the region. Two hours lecture, 3 hours lab per week, and field trips.

GS 326 STRUCTURAL AND FIELD GEOLOGY II 3 cr.
Prerequisite: GS 325.
Techniques of geologic field work including work with Brunton compass, aerial photographs, plane table and alidade, drafting, and rock color charts. Includes a field project involving compilation of measured and described stratigraphic sections, a geologic map, cross sections, and field report. Two hours lecture, 3 hours lab per week, and field trips.

GS 327 GEOMORPHOLOGY 3 cr.
Prerequisites: GS 121 and GS 122.
A study of the origin of the earth's land forms, including relationship of geologic structure to landform types and role of geomorphic processes in landscape development. Two hours lecture, 3 hours lab per week.

GS 330 PALEONTOLOGY 3 cr.
Prerequisite: GS 122 or permission of instructor.
Study of the morphology, evolution, geologic significance and paleoecology of invertebrate fossils. Two hours lecture, 3 hours lab per week.

GS 335 ECONOMIC GEOLOGY 3 cr.
Prerequisite: GS 321.
Deals with location and probable origin of fossil fuels, ores of the non-metals, and metallic ores, both ferrous and nonferrous. Two hours lecture, 3 hours lab per week.

GS 341 SOLAR SYSTEM 3 cr.
Prerequisite: Math 013 and Phys. 111.
Fundamentals of astronomy, with emphasis on observational methods, mechanics and origin of the solar system, and spatial relationship of the solar system to the other members of universe. Two hours lecture, 3 hours lab or night observation per week.

GS 342 STELLAR ASTRONOMY 3 cr.
Prerequisite: Math 013 and Phys. 111.
Fundamentals of astronomy, with emphasis on sun, stars, galaxies, the sidereal universe and use of spectroscopy for gathering astronomical data. Two hours lecture, 3 hours lab or night observation per week.

GS 350 OPERATION OF THE PLANETARIUM 1 cr.
Prerequisite: GS 341 and GS 342 or permission of instructor.
Designed to acquaint the student with methods of operation and repair of a Spitz A-3-P planetarium. Content includes topics

suitable for lectures to various age groups. Student will write and present a demonstration lesson.

GS 361 OCEANOGRAPHY I 3 cr.
Prerequisite: Physics I and Calculus I or permission of instructor. Introduction to physical, chemical, geological and biological nature of ocean; topography, submarine geology and bottom deposits. Two hours lecture, 3 hours lab per week.

GS 362 OCEANOGRAPHY II 3 cr.
Prerequisite: GS 361.
A continuation of Oceanography I. Emphasis upon marine geology, coastal geomorphology, and structure and sedimentary environments of the continental shelf, slope and ocean basin.

GS 371 METEOROLOGY I 3 cr.
Prerequisite: One year of Physical Science or Physics.
Introduction to meteorological sciences; composition and structure of the atmosphere; radiation principles; elementary thermodynamics and heat balance. Two hours lecture, 3 hours lab per week.

GS 372 METEOROLOGY II 3 cr.
Prerequisite: GS 371 or permission of instructor.
Introduction to physical, dynamical and theoretical meteorology. Two hours lecture and 3 hours lab per week.

GS 411 SEDIMENTOLOGY AND STRATIGRAPHY I 3 cr.
Prerequisite: GS 321 or permission of instructor.
Study of sedimentary processes and of origin, interpretation, and identification of sedimentary rocks utilizing sieve analysis, hand lens, and petrographic microscope. Two hours lecture, 3 hours lab per week, and field trips.

GS 412 SEDIMENTOLOGY AND STRATIGRAPHY II 3 cr.
Prerequisite: GS 421 or permission of instructor.
Principles and processes involved in development and description of stratified rock sequences, principles and problems of correlation, and selected stratigraphic problems. Two hours lecture, 3 hours lab per week, and field trips.

GS 461 FIELD TECHNIQUE IN GEOSCIENCE 3 cr.
Instruction in methods employed in the field to obtain and interpret geologic information. Two hours lecture, 3 hours lab per week.

GS 480 GEOSCIENCE SEMINAR 1 cr.
For seniors majoring in some aspect of geoscience. The seminar: (1) provides student opportunity to prepare, formally present, and defend a scientific paper based either on his own research or on a topic chosen by him with the approval of instructor, (2) provides opportunity to discuss topics presented by other students, faculty, or guests.

GS 481 SPECIAL TOPICS 1-3 cr.
Prerequisite: Permission of instructor.
It is the department's intention to use this course to schedule extended field trips and for teaching special courses which will utilize the specialities of the geoscience faculty.

GS 482 INDEPENDENT STUDY 1-3 cr.
Independent study provides the student with an opportunity to use library, laboratory or field research in an area which is of interest to him under the supervision of a designated faculty member.

NOTE: See Marine Science Consortium section for additional course listings.

HISTORY DEPARTMENT

GEORGE T. WILEY, CHAIRPERSON: CASHDOLLAR, CORD, FERGUSON, FRICKE, GOODRICH, HATFIELD, KADLUBOWSKI, KLEIN, LANDON, LEHMAN, MARCUS, MASTRO, MILLER, MOORE, OLIVER, RIFE, SMITH, VOGEL, YACKUBOSKEY.

Programs in history are designed to give both those who major in history in the School of Arts and Sciences, and those who concentrate in history in the School of Education an opportunity to study in some depth the past story of man and his world. Degrees offered by the History Department are the Bachelor of Arts in History and the Bachelor of Science in Education with a major in Social Studies, concentrating in history. The first program is under the School of Arts and Sciences, and the second is under the School of Education.

The history student will find that his program is excellent preparation for government service, for pre-law training, for broad business opportunities, for work in varied fields of journalism, for archival positions, and for teaching. Not only the story of the people of the United States, but also that of other peoples is covered, in the belief that historical understanding is essential for the future of mankind.

CURRICULA

Requirements for the degree of Bachelor of Arts in History are 30 credits in history. Requirements for the degree of Bachelor of Science in Education with a major in Social Studies, concentrating on history, are a minimum of 15 credits in history within the 42 hours required for social science certification. The requirement for a minor in history is 15 credits. For all history programs, courses in history in General Education are applicable. Although there are no prerequisites to history courses, all programs should be planned with an advisor. Every major and concentrate in history will be advised by History Department staff members.

Admission to History 482 and 483, initiation in the local chapters of Phi Alpha Theta and Pi Gamma Mu, participation in study tours and study-abroad programs and other activities should be investigated by every history student. The department is committed to the idea of a broad education.

COURSE DESCRIPTIONS

HI 101 HISTORY OF CIVILIZATION I 3 cr.
Survey course, presenting in various forms origin and development of Western man's major political, social, economic, religious, and intellectual institutions to approximately 1600 A.D.

HI 102 HISTORY OF CIVILIZATION II 3 cr.
Survey of man's development from 1600 A.D. to present, in which economic, political, social, and intellectual trends are discussed in a basic presentation, the student then selects a topic of personal preference from a variety of preparations offered by individual professors.

HI 103 HISTORY OF THE UNITED STATES AND PENNSYLVANIA I 3 cr.
Survey of American history from colonization to 1865, with attention to Pennsylvania, colonial foundations, emergence of Federal Union, political and social reform, and controversy over sectionalism and slavery.

HI 104 HISTORY OF THE UNITED STATES AND PENNSYLVANIA II 3 cr.
Survey of history of the United States and Pennsylvania since 1865, with emphasis on major economic, political, and social trends and development of American culture. Also considered is role of America in world affairs.

HI 200 INTRODUCTION TO HISTORY 3 cr.
For history majors and concentrates. Topics include philosophy of history, important schools of history and historians, and methods of historical research. Student is encouraged to become a better historian and to identify with historical profession.

HI 301 HISTORY OF GREECE 3 cr.
Will analyze major political, social, and economic developments in ancient Greek civilization from Bronze Age to death of Alexander.

HI 302 HISTORY OF ROME 3 cr.
Will trace Roman history from early Republic down to fall of Empire. Roman political theory will be particularly emphasized.

HI 303 MEDIEVAL EUROPE I, 400—1000 3 cr.
History of early Medieval Europe, from decline of Rome to beginnings of High Middle Ages; emphasis on political, social, economic, religious, and intellectual developments.

HI 304 MEDIEVAL EUROPE II, 1000—1300 3 cr.
History of late Medieval Europe, from High Middle Ages to Renaissance period; emphasis on political, social, economic, religious, and intellectual developments.

HI 305 RENAISSANCE AND REFORMATION 3 cr.
History of Europe from c. 1250; rise of commercial city, Kings, and pressures on Christian Church to 1600. Some consideration of technology and voyages.

HI 306 EARLY MODERN EUROPE 3 cr.
Greatness of France under Louis XIV; Sweden; Thirty Years' War. Emergence of modern society; French Revolution.

HI 307 HISTORY OF EUROPE: 1815-1914 3 cr.
Study of Europe in 19th century, with emphasis on the emergence of major thought patterns, Romanticism, Nationalism, Socialism, and Positivism.

HI 308 TWENTIETH CENTURY EUROPE 3 cr.
Political, economic, and diplomatic trends in Europe since 1900, with major emphasis on causes and results of war, and search for security.

HI 320 HISTORY OF ENGLAND TO 1688 3 cr.
Survey of growth of English nation, with emphasis on political, social, and economic developments leading to 17th century conflict between Crown and Parliament.

HI 321 HISTORY OF ENGLAND, 1688 to PRESENT 3 cr.
Survey of growth of England as a democratic constitutional monarchy. Attention directed to industrial revolution, and to imperial expansion and England's role in 20th century world. Attention given to social and cultural history.

HI 322 FRENCH REVOLUTION AND NAPOLEON 3 cr.
Brief sketch of Old Regime, concentration on Revolution, and Empire, with emphasis on politics, social structure, diplomacy, and economics.

HI 323 MODERN FRANCE 3 cr.
Investigation of political, cultural, economic, and social developments since 1815. Discussions and readings.

HI 324 HISTORY OF GERMANY TO 1848 3 cr.
Study of evolution of German nation from its prehistoric origins, emphasizing medieval and early modern phases, to 1848.

HI 325 HISTORY OF GERMANY: 1849-1970 3 cr.
Study of development of modern Germany from Revolution of 1848, including imperial republican and totalitarian phases, to post-War formation of East and West Germany.

HI 326 HISTORY OF RUSSIA 3 cr.
General survey of Russian history, culture, and institutions. Special

consideration given to study of historical forces formative of Revolution of 1917.

HI 327 HISTORY OF SOVIET RUSSIA 3 cr.
General survey of contemporary Soviet history, culture, and institutions. Special consideration given to study of communist theory and its place in current Russian historiography.

HI 340 COLONIAL AMERICA 3 cr.
Survey of original thirteen states from their inception as colonies within British empire to 1763, the eve of independence. Attention given to their political development; economic position within empire; relations with Indians; and evolution of social, educational and religious life.

HI 341 AMERICAN REVOLUTION 3 cr.
An examination of Whig-Tory participants of American Revolution. Examines events from 1763 to 1783. Changing interpretations of the courses and effects of the revolution will be discussed.

HI 342 JEFFERSON–JACKSON ERAS, 1783-1850 3 cr.
Survey of United States history from 1783 to 1850, with special attention on constitutional, political, economic, and social trends.

HI 343 CIVIL WAR AND RECONSTRUCTION 3 cr.
Study of failure of American democracy to cope with issues of mid-nineteenth century, followed by political, economic, military, and social developments during War and reconciliation of North and South.

HI 344 HISTORY OF THE UNITED STATES, 1876-1900 3 cr.
Stresses reaction of various segments of heterogeneous population to rapid industrialization, urbanization, and corporatization of American life and emergence of U.S. as a world power; special attention to formation of new institutions.

HI 345 HISTORY OF THE UNITED STATES 1900-1929 3 cr.
Emphasis on political, social, economic, and diplomatic developments in American history between 1900 and 1929.

HI 346 CONTEMPORARY UNITED STATES HISTORY 3 cr.
Study of political, economic, and cultural changes in American life since 1929; examines roots of social problems facing us today. Some recent foreign policy trends also studied.

HI 350 HISTORY OF LATIN AMERICA: COLONIAL PERIOD, 1450–1820 3 cr.
Study of life of people, Indian cultures, conquest by Spaniards and Portuguese, government during Colonial Period, and Wars of Independence.

HI 351 HISTORY OF LATIN AMERICA: NATIONAL PERIOD, 1820–PRESENT 3 cr.
Study of history of nations which have emerged since independence; emphasis on economic, political, cultural, and social developments of these nations, as well as relationships of these nations to others in the Hemisphere.

HI 360 HISTORY OF PENNSYLVANIA 3 cr.
Emphasizes the cultural, economic, political, and social development of our state in its various periods from colonial to today. Special attention given to diversity of Pennsylvania's people, their institutions, and problems.

HI 361 HISTORY OF AMERICAN FOREIGN RELATIONS, 1775–1900 3 cr.
Traces Foreign Relations of United States from Independence to emergence as a world power. Topics concentrate on themes of commercial relations, political isolation, expansion, and debate over imperialism.

HI 362 HISTORY OF AMERICAN FOREIGN RELATIONS, 1900–PRESENT 3 cr.
Treats primarily our 20th century involvement in world affairs and domestic debate over that involvement. Special emphases will be placed on role of interest groups and increasing power of Executive Department over Foreign Affairs.

HI 363 SOCIAL AND INTELLECTUAL HISTORY OF THE UNITED STATES TO 1875 3 cr.
Selected topics in early American intellectual and cultural growth, with emphasis on Puritanism, Enlightenment, cultural nationalism, and Romantic Movement.

HI 364 SOCIAL AND INTELLECTUAL HISTORY OF THE UNITED STATES SINCE 1875 3 cr.
Selected treatment of historical development of modern American movements in social and political thought, religion, philosophy, fine arts, and literature.

HI 365 HISTORY OF BLACK AMERICA SINCE EMANCIPATION 3 cr.
Description and analysis of role of blacks in history of United States since the Civil War; emphasis on key leaders, major organizations, leading movements and crucial ideologies of blacks in modern America.

HI 366 AMERICAN LABOR MOVEMENT 3 cr.
Investigation of growth of American labor movement from 19th century to present; emphasis on role of Knights of Labor, American Federation of Labor, Industrial Workers of the world and Congress of Industrial Organizations. Study of working class in its working and living settings.

HI 367 ECONOMIC HISTORY OF THE UNITED STATES 3 cr.
Historical development of economic institutions in American life since Independence; emphasis on farming, labor, transportation, banking and manufacturing.

HI 368 U. S. URBAN HISTORY 3 cr.
A survey of American cities from their beginnings to present emphasizing relationship of urban history to social science theory, and stages and process of city development.

HI 380 HISTORY OF THE ISLAMIC CIVILIZATION 3 cr.
An approach to learning about a non-Western culture: Muhammad, Arabs, Muslims as creators of a great civilization from rise of Islam to 1800; emphasis on cultural institutions of Islam and their inter-relationships within Middle East.

HI 381 HISTORY OF THE MODERN MIDDLE EAST 3 cr.
Survey of changes that have taken place in Middle East and in Islam since eighteenth century and of contemporary problems in that region.

HI 382 HISTORY OF THE FAR EAST 3 cr.
History of China and Japan from ancient times. Buddhism, medieval Japan; Chinese Communism, industrialization. Some consideration of peripheral Asia from 1500.

HI 390 HISTORY OF WOMEN—WORLD CULTURES 3 cr.
Explores religious, legal, political, and mythic dimensions of women in society from ancient to modern times, including Eastern, Western and American experiences.

HI 391 FILM AS HISTORY 3 cr.
Particularly concerned with probing relationship between cinema and society. History of film is explored and student is given some background in film interpretation and cinematography, the western, science fiction, police films, and great foreign and American detective films.

HI 481 SPECIAL STUDIES IN HISTORY 3-9 cr.
Each semester six to ten courses are offered in interest areas that are not part of the regular program. For example, Film as History, the American Jew, Fighting the Great Wars, History of Baseball, the Car, and the Christian Perspective have been offered as special studies. Students may schedule as many of these courses as desired, but two per semester is the usual limit.

HI 482 INDEPENDENT STUDY 3-6 cr.
Involves directed reading or research for qualified students. We encourage experimental projects and personalized learning. Honors sections are provided for qualified students. Prerequisites: 12 credits in history; a 3.0 history average; permission of a faculty member.

HI 483 INDEPENDENT STUDY 3 cr.
An honors program within the independent study format. Minimum qualifications are a 3.0 Q.P.A., 15 credits of history, and a 3.2 average in history classes. Satisfactory honors work is rewarded by formal recognition at graduation.

INTERNATIONAL STUDIES

Degree programs in International Studies are offered in both the School of Arts and Sciences (Bachelor of Arts) and the School of Education (Bachelor of Science in Education). Both degrees are interdisciplinary and, consequently, draw upon the faculty and course offerings of many other departments. The course selection is broad enough to prepare the student for any one of a great variety of career opportunities. The Bachelor of Arts program is designed for the specialist who is interested in a professional career, the Bachelor of Science in Education program for majors in Social Sciences is designed to certify the graduate to teach world cultures or any of the social sciences in the public schools.

CURRICULA

B. A. Program

Beyond the General Education courses required of all students in the University, the requirements for the degree of Bachelor of Arts in International Studies are as follows:

1. The student must build an interdisciplinary sequence of 15 hours taking an introductory or comparative international course from each of five social science disciplines. This selection depends upon the goal of the major and should be determined in consultation with his advisor and/or the Director of the Center for International Studies.

2. The student should complete a specialization sequence in

the economic and political systems of another culture which must include a study of language, literature, history and geography of that region. This specialization sequence must include at least 15 semester hours. Currently, three specializations are offered: Soviet Studies, The Far East, and Latin America. However, students interested in Africa or the Middle or Near East may elect interdisciplinary courses focusing on the developing nations. It is also possible to build a program centering on the Atlantic Community of Nations.

Specialization must include work in at least three disciplines. The student is expected to have completed the intermediate language sequence of the appropriate language in the General Education requirements, so that no credit towards specialization is given for language courses numbered below the 300 level.

Minor in International Studies

A minor in International Studies consists of meeting the requirements listed under (1) above. The curriculum of the Center for International Studies is flexible enough that the student can plan a program to match his interests.

B. S. in Education (International Studies Concentrate)

A concentration in International Studies will supplement the student's required courses and leads to Certification in the social science fields for teaching positions in the state of Pennsylvania.

LINGUISTICS MINOR INTERDISCIPLINARY PROGRAM (In process of approval at this time)

Interdisciplinary Linguistics Board: SHARON MONTGOMERY (Philosophy; Chn.), ANDERSON (English; At-large), BORMANN (Special Education — Speech & Hearing), HUDSON (Humanities), ISAR (Romance & Classical Languages), OLIN-FAHLE (Sociology-Anthropology), MAGEE (Psychology), STERNGLASS (English), TOMPKINS (Computer Science), WILLIAMS (German and Russian).

Linguistics is a social science, concerned with an aspect of human behavior that has traditionally set man apart from the lower animals — our use of an intricate system of speech sounds to communicate with our peers and our use of written symbols to transmit our accumulated knowledge to our descendents. Language has always been regarded as peculiarly human, but even this belief is being questioned by those conducting contemporary experiments on the language capabilities of monkeys. The problems of modern linguistics are of concern to many diverse fields, including anthropology, sociology, psychology, philosophy, and speech and hearing. Linguistics has always had a close relationship with literature and foreign language learning. Developments in other areas have had their impact on linguistics. Formal models of language and its structures are a part of computer science. This Interdisciplinary Linguistics Minor is intended to offer to students the opportunity to acquaint themselves with modern linguistics from a variety of perspectives.

The Interdisciplinary Linguistics Minor consists of 18 credits chosen from the list of options below, selected from at least three participating departments, and including no more than 6 credits from the student's major department. Any one of the following courses is strongly recommended as an initial program course: AN 233, EN 330, FL 421, or SH 302.

The program is academically supervised by an Interdisciplinary Linguistics Board consisting of the Associate Dean of Humanities, an at-large complement, and one representative from each of the following departments: Computer Science, English, German and Russian Languages, Philosophy, Psychology, Romance and Classical Languages, Sociology-Anthropology, and the Speech and Hearing section of the Special Education Department. Board members serve as Interdisciplinary Linguistics advisors.

Some of the courses listed below in the program have prerequisites; these must be satisfied as prescribed by the department offering the course.

Program Courses

AN 233	Cultural Symbolism I: Language in Culture
CO 220	Applied Computer Programming Languages
CO 340	Data Structures and Non-Numeric Programming
CO 460	Theory of Computation
EN 230	History of the English Language
EN 330	The Structure of English
EN 331	Trends in Linguistics
EN 332	Dialects in American English
EN 333	Psycholinguistics (Also PC 333)
FL 421	Language and Society
fl 351-352	Advanced Language I—II, where "fl" is FR, LA, SP, GM, or RU (French, Latin, Spanish, German, or Russian).
FR 461	Structures of French & English
PH 221	Logic I
PH 300	Philosophy of Language
PH 321	Logic II
PC 333	Psycholinguistics (also EN 333)
SH 302	Language Development
SH 430	Language Disorders

NOTE: Specific offerings of Special Topics or other courses in the 480 series offered by participating departments may be approved by the Board for inclusion in the minor. Consult Board members for current information.

MARINE SCIENCE CONSORTIUM

J. G. HUMPHREYS AND PAUL PRINCE — IUP DIRECTORS TO THE MARINE SCIENCE CONSORTIUM.

The following course listings are offered through the Marine Science Consortium which operates during the summer at the NASA-Wallops Island Station, Virginia. See page 65 for additional information.

All courses include lecture and field work and meet for morning and afternoon sessions on Monday through Friday.

COURSE DESCRIPTIONS

MI 110 INTRODUCTION TO OCEANOGRAPHY 3 cr.
Prerequisites: None.
Introduction to physical, chemical, biological and geological aspects of oceans and methods and techniques of oceanography. Lab emphasis placed on at-sea assignments.

MI 211 FIELD METHODS IN OCEANOGRAPHY 3 cr.
Prerequisites: MI 110 or consent of instructor.
Familiarization with dynamic marine environment involving use and application of oceanographic instruments and sampling devices.

MI 212 NAVIGATION 3 cr.
Prerequisite: Four years high school math or equivalent or consent of the instructor.
Covers navigation, i.e., the art and science of safely bringing a vessel from one position to another in a body of water. Course divided into: (1) brief historical background; (2) navigation within sight of land, i.e. piloting; (3) navigation in the open sea, including electronic navigation methods.

MI 221 MARINE INVERTEBRATE ZOOLOGY 3 cr.
Prerequisites: One year biology or consent of instructor.
Study of marine invertebrates with emphasis on development, reproduction, structure, function, and classification of selected marine organisms.

MI 241 MARINE BIOLOGY 3 cr.
Prerequisites: Botany and zoology or consent of instructor.
Study of plant and animal life in marine environment with emphasis placed upon physical and chemical factors affecting biota.

MI 250 MANAGEMENT OF WETLAND WILDLIFE 3 cr.
Prerequisite: None.
The ecology and management of wetland wildlife, particularly of freshwater marshes and saltwater marshes. Special emphasis on ecosystem approach.

MI 260 MARINE ECOLOGY 3 cr.
Prerequisites: One year of biology or consent of instructor.
A course in ecology of marine organisms.

MI 270 SCUBA DIVING non credit or 3 cr.
Prerequisites: Swimming ability and good health. (A standard diving physical form will be mailed to students electing the course.)
Students who complete course will receive a National Association of Underwater Instructors Diver Certification.

MI 280 MARINE FIELD BIOLOGY 3 cr.
Prerequisites: None.
An introduction to basic principles of ecology and natural history of selected plants and animals in terrestrial, freshwater, and marine environments. Suitable for non-science majors.

MI 331 CHEMICAL OCEANOGRAPHY 3 cr.
Prerequisites: MI 110 and one year of chemistry.
Treatment of oceanic chemical phenomena by sampling and laboratory analysis techniques.

MI 342 MARINE BOTANY 3 cr.
Prerequisites: One year of biology or one semester of botany.
In-the-field studies and laboratory analysis by instrumentation of marine and marine fringe plants of the Middle Atlantic Coast as exemplified by those found in the Cape Henlopen, Delaware, and Wallops Island, Virginia, areas.

MI 343 MARINE ICHTHYOLOGY 3 cr.
Prerequisites: General Biology and/or consent of the instructor.
A study of fishes. Specimens collected along Eastern Seaboard by students will be used to illustrate anatomy, physiology and systematics of this major vertebrate group. Field collections will give student opportunity to observe relationships of these animals to biotic and physical environment.

MI 344 ANATOMY OF MARINE CHORDATES 3 cr.
Prerequisites: Six hours of biology including general Zoology.
Designed to familiarize students with various aspects of marine chordates.

MI 345 MARINE ORNITHOLOGY 3 cr.
Prerequisite: One year of Biology, or consent of the instructor.
Introduces student to avain fauna of seacoast and enables comparison with inland species. In addition to field work providing visual and vocal identification, lecture material will include information on distribution, behavior, physiology, and anatomy of birds.

MI 362 MARINE GEOLOGY 3 cr.
Prerequisites: MI 110 and physical geology or consent of instructor.
Studies of structural and sedimentary environments of continental shelf, slopes, and ocean basins and crustal structure of earth and its relation to sedimentary record and geologic history of oceans.

MI 364 PHYSICAL OCEANOGRAPHY 3 cr.
Prerequisites: MI 110, one year of physics, one semester of calculus and permission of the instructor.
Course includes consideration of physical properties, mass and energy budgets, theory of distribution of variables; cause, nature, measurement, analysis and prediction of tides, currents and waves; and basic instrumentation in the field.

MI 420 MARINE MICROPALEONTOLOGY 3 cr.
Prerequisites: One year of geology and biology or consent of instructor.
Deals with modern, living representatives of microorganisms important in fossil record with particular emphasis placed on taxonomy, morphology, evolution and ecologic affinities of representative groups.

MI 431 ECOLOGY OF MARINE PLANKTON 3 cr.
Prerequisites: One year of Biology.
Study of phytoplankton and zooplankton in marine and brackish environments. Qualitative and quantitative comparisons made between the planktonic populations of various types of habitats in relation to primary and secondary productivity.

MI 459 COASTAL GEOMORPHOLOGY 3 cr.
Prerequisite: One year of Geology.
A study of coastal geomorphology with emphasis on Late Cenozoic and Pleistocene sea-level changes in response to world-wide continental glaciation. The student will participate in field studies of Pleistocene deposits and the weathering of these deposits.

MI 481 SPECIAL TOPICS 3 cr.

MI 500 PROBLEMS IN MARINE SCIENCE 3 cr.
Graduate students or undergraduate students with advanced standing registering for this course may elect either of the following options:

Option A: Take a 200, 300, or 400 level MI course and complete in addition to regular course requirements a project in the area under direction of instructor.

Option B: Complete an independent research project. A research proposal must be approved by the Academic Committee of M.S.C. in advance of the time research is to be pursued.

MATHEMATICS DEPARTMENT

MELVIN R. WOODARD, CHAIRPERSON: ANGELO, ARMS, BERTNESS, BROUGHTON, BURIOK, BUSOVICKI, CROOKS, A. DAVIS, DEISHER, DUNCAN, R. GIBSON, HARTMAN, HENNEMANN, W. LONG, MADERER, D. McBRIDE, R. McBRIDE, McCOY, MORRELL, MUELLER, OAKES, PETERS, REBER, REIGH, RETTIG, D. SHAFER, SHAWER, SHEPLER, E. SMITH, W. SMITH, SPEAKMAN, STILWELL, TROXELL, WESTWOOD, WILLISON, R. WOLFE.

Degrees offered by the Mathematics Department are the Bachelor of Science in Mathematics, the Bachelor of Arts in Mathematics, the Bachelor of Science in Applied Mathematics, the Bachelor of Arts in Applied Mathematics, and the Bachelor of Science in Education with a Mathematics major. The first four degree programs are under the School of Arts and Sciences, and the fifth is under the School of Education. The Department also offers a Mathematics minor.

CURRICULA

The program for a mathematics major in the School of Arts and Sciences is two-phased. A student may pursue a degree in Mathematics or a degree in Applied Mathematics. Those completing a degree in Mathematics will be prepared to continue their studies in mathematics in graduate school though some may enter business, industry, or Government service. Those students receiving a degree in Applied Mathematics will be primarily prepared to enter business, industry, or Government service in an area where mathematics or computer science is used or to continue their studies in applied mathematics or computer science in graduate school. This student would not be expected to continue graduate studies in pure mathematics.

For either program, the Mathematics major requires 36 credits in mathematics, distributed as described later. If in addition to these 36 credits, the student elects at least an additional 26 credits in the Natural Sciences and Mathematics Division, he receives the Bachelor of Science degree. Otherwise he receives the Bachelor of Arts degree.

The program leading to the B.S. in Education with a Mathematics major prepares the student for teaching mathematics in junior or senior high school. Many graduates, however, continue their formal education in mathematics at the graduate level.

Core Program

Requirements for ALL Mathematics majors, beyond the University's General Education requirements, are Computer Science 110 and 18 credits in Mathematics, as follows:

MA 111, 113, 115 — Calculus I, II, and III	12 cr.
MA 231 — Introduction to Algebraic Structures	3 cr.
MA 233 — Introduction to Linear Algebra	3 cr.

B. A. or B. S. in Mathematics

In addition to the Core Program, requirements for both the

B. A. and the B. S. in Mathematics are 18 more credits in Mathematics, as follows:

I. MA 381 — Advanced Calculus I 3 cr.
MA 376 — Abstract Algebra I 3 cr.

II. At least 3 credits in one of the following:
MA 382 — Advanced Calculus II 3 cr.
MA 377 — Abstract Algebra II 3 cr.
MA 421 — Introduction to Topology 3 cr.

III. At least enough credits in the following courses to meet the minimum requirements of 36 credits total for the major:

MA 371 — Linear Algebra 3 cr.
MA 355 — Foundations of Geometry I 3 cr.
MA 356 — Foundations of Geometry II 3 cr.
MA 361 — Ordinary Differential Equations 3 cr.
MA 363 — Introduction to Probability 3 cr.
MA 364 — Mathematical Statistics I 3 cr.
MA 365 — Mathematical Statistics II 3 cr.
MA 423 — Complex Variables I 3 cr.
MA 425 — Complex Variables II 3 cr.
MA 341 — Theory of Numbers 3 cr.

It is strongly recommended that the Mathematics major take two of the three courses in Section II, one of the two being Topology. It is further recommended that students who intend to take graduate courses in mathematics check the requirements for entrance to their intended school of graduate study for guidance in choosing courses from Section III.

B. A. or B. S. in Applied Mathematics

In addition to the Core Program, requirements for the B. A. and the B. S. in Applied Mathematics are as follows:

MA 361 — Ordinary Differential Equations 3 cr.
MA 471 — Advanced Calculus for Applications 4 cr.
MA 363 — Probability 3 cr.
MA 364 — Mathematical Statistics I 3 cr.
MA 423 — Complex Variables I 3 cr.
MA 480-489 — Seminar in Mathematics 2 cr.
(This might be optimization, problem solving, partial differential equations, game theory, etc.)
CO 250 — Introduction to Numerical Methods 3 cr.
CO 350 — Applied Numerical Methods 3 cr.

B. S. in Education (Mathematics Major)

In addition to the Core Program, requirements for the degree of Bachelor of Science in Education with a Mathematics major are credit for Computer Science 110 plus 16 credits in Mathematics, including Education 456, as follows:

I. Required courses:
MA 355 — Foundations of Geometry 3 cr.
MA 452 — Mathematics Seminar* 1 cr.
ED 465 — Teaching Mathematics in the Secondary Schools 3 cr.

*Seminars in teaching geometry, teaching algebra, and teaching general mathematics will be conducted as part of the seminar offerings. It is strongly recommended that each Mathematics major take one of these seminars. It should be noted that the student may take as many as 3 additional credits in Mathematics Seminars.

II. Two 3-credit courses (total of 6 credits) must be selected from the following five courses:

MA 376 — Abstract Algebra I	3 cr.
MA 381 — Advanced Calculus I	3 cr.
MA 371 — Linear Algebra	3 cr.
MA 363 — Introduction to Probability	3 cr.
MA 341 — Theory of Numbers	3 cr.

III. Mathematics elective (see above) 3 cr.

One of the purposes of the program is to provide maximum flexibility in student course selection. Prior to scheduling for the junior year, all Mathematics Education majors will meet for the purpose of being advised regarding courses they should elect, depending on whether they desire to teach at the junior high level or the senior high level, or to enroll in graduate school.

Minor in Mathematics

The Minor in Mathematics consists of a minimum of 17 credits in mathematics made up of any two semester sequence in calculus and additional credits selected from courses for mathematics majors. This excludes MA 101, 011, and 362.

COURSE DESCRIPTIONS

MA 010 BASIC ALGEBRA 3 cr.
A basic course in algebra including factoring, exponents and radicals, systems of linear equations, complex fractions, and inequalities. Designed for those students who lack the basic algebraic skills required in MA 011 Elementary Functions. 3 credits — three lecture hours per week.

MA 011 ELEMENTARY FUNCTIONS 3 cr.
For students not prepared to begin study of calculus; topics include polynomial, exponential, logarithmic and trigonometric functions. Three hours lecture per week.

MA 013-015 CALCULUS I AND II FOR THE NATURAL AND SOCIAL SCIENCES 4 cr. each
Prerequisite: Two years of high school mathematics.
Introduces non-math major to analytic geometry, elementary functions (including trig functions), central ideas of the calculus (limit, derivative and integral), applications of these central ideas to social and natural sciences and numerical methods that involve series. Four hours lecture per week.

MA 017/019 CALCULUS I AND II FOR PHYSICS AND CHEMISTRY 4 cr. each
Prerequisite: High school algebra, geometry, and trigonometry.
Techniques of differentiation and integration, with application to analytic geometry of two and three dimensions by means of vector analysis (algebra and calculus), kinematics, surface integrals, line integrals, infinite series, matrices and simultaneous linear equations, differential equations with numerous applications to physical problems. Four hours lecture per week.

✓ MA 101 FOUNDATIONS OF MATHEMATICS 3 cr.
Introduces logic and mathematical way of analyzing problems; develops an appreciation for nature, breadth, and power of mathematics and its role in a technological society and introduces useful mathematics or mathematics related to student interest. Possible topics include: logic, problem-solving, number theory, linear programming, probability, statistics, intuitive calculus, intro to computers, mathematics of finance, game theory. Three hours lecture per week.

MA 111/113/115 CALCULUS I, II, AND III 4 cr. each
Prerequisite: Permission of the Mathematics Department.
Courses stress the theory of the calculus as well as applications in problem solving. Included are: Calculus I: sets and functions,

two-dimensional analytic geometry, limits, derivatives with applications; Calculus II: The Riemann integral and its properties, approximation of integrals, applications of integral, and development for differentiating and integrating transcendental functions; Calculus III: polar coordinates, continuity and differentiation of functions of several variables, multiple integrals, line and surface integrals, theory of continuous and differentiable functions and series. Four hours lecture per week.

✓ MA 214 PROBABILITY AND STATISTICS FOR BUSINESS MAJORS 3 cr.
Designed to introduce study of probability theory, discrete random variables and probability distributions, empirical frequency distributions, theoretical frequency distributions, statistical investigations and sampling, and sampling distributions.

MA 231 INTRODUCTION TO ALGEBRAIC STRUCTURES 3 cr.
Gives student of mathematics basic ideas of contemporary mathematics. Includes mathematical logic, algebra of sets, equivalence relations and partitions of sets, functions, and fundamentals of group theory. Methods of proof in area of abstract mathematics stressed.

MA 233 INTRODUCTION TO LINEAR ALGEBRA 3 cr.
Introduction to vector spaces, linear transformations and matrix theory. Begins concepts studied in a more theoretical setting in Math 371. Three hours lecture per week.

MA 240 DISCRETE MATHEMATICS 3 cr.
Prerequisite: CO 110 and a two semester calculus sequence.
Topics include set algebra, mappings, relations, semigroups, groups, directed and undirected graphs, Boolean algebra and propositional logic, with examples and applications of these to various areas of computer science. Emphasis placed on developing an intuitive understanding of basic structures rather than formal theories, and influence of these topics on theory and practice of computing. Three hours lecture per week.

MA 341 THEORY OF NUMBERS 3 cr.
Prerequisite: MA 115.
Divisibility, congruences, primitive roots, number theoretic functions, diophantine equations, continued fractions, quadratic residues. Three hours lecture per week.

MA 355 FOUNDATIONS OF GEOMETRY I 3 cr.
Prerequisite: MA 231, 233.
Studies various groups of transformations and geometries associated with these groups in the Euclidean plane. The Euclidean Similarity, Affine and Projective Groups of Transformations are studied. Three hours lecture per week

MA 356 FOUNDATIONS OF GEOMETRY II 3 cr.
Prerequisite: MA 355.
An extension of ideas of Math 355. The real projective plane is introduced and the analytic projective geometry of this plane. Three hours lecture per week.

MA 361 ORDINARY DIFFERENTIAL EQUATIONS 3 cr.
Prerequisite: MA 015, 019, or 115.
Special solvable non-linear equations, linear equations with solutions based on operator techniques, the Lapiace transtorm, or infinite series. Numerous applications to physical problems. Three hours lecture per week.

MA 362 PROBABILITY AND STATISTICS 3 cr.
For non-math majors.
Frequency distributions, measures of central tendency, variation, elementary probability, sampling, estimation, testing hypotheses, correlation, and regression; emphasis on applications, as opposed to theoretical development of subjects. Three hours lecture per week.

MA 363 INTRODUCTION TO PROBABILITY 3 cr.
Prerequisite: MA 015, or 019, or 115.
Probability theory necessary for understanding of mathematical statistics developed; applications of theory given with emphasis on

binomial, Poisson, and normal distributions. Distributions of sums and a central limit theorem developed. Three hours lecture per week.

MA 364 MATHEMATICAL STATISTICS I 3 cr.
Prerequisite: MA 363.
Multivariate distributions, properties of the moment generating function, change of variable technique, Chi-square distribution, estimation, confidence intervals, testing hypotheses, contingency tables, goodness of fit. Many practical applications. Use of calculating machines where appropriate. Three hours lecture per week.

MA 365 MATHEMATICAL STATISTICS II 3 cr.
Prerequisite: MA 364.
Correlation and regression from applied and theoretical points of view, bivariate normal distribution, small sample theory. Student's *t* and *F* distributions, analysis of variance, nonparametric methods. Many practical applications. Use of calculating machines or computers where appropriate. Three hours lecture per week.

MA 371 LINEAR ALGEBRA 3 cr.
Prerequisites: MA 231 and 233.
Topics covered in MA 233 explored more deeply. Canonical forms, elementary divisors and multi-linear algebra studied. Three hours lecture per week.

MA 376 ABSTRACT ALGEBRA I 3 cr.
Prerequisites: MA 231 and 233.
Development of theory of integral domains, fields, rings, and groups; designed to develop student's power to think for himself and to improve ability to construct formal proofs. Three hours lecture per week.

MA 377 ABSTRACT ALGE8RA II 3 cr.
Prerequisite: MA 376.
Designed to have student continue study of algebra by use of axiomatic method; Euclidean domains; polynomial domains and extension fields included; inter-relationships between these structures and simpler structures, particularly groups and rings, are developed as in study of Galois group of a polynomial and in an introduction to Galois Theory. Three hours lecture per week.

MA 381 ADVANCED CALCULUS I 3 cr.
Prerequisite: MA 015, 019, or 111.
Study of set theory, real number system, functions, topology of cartesian space, sequences, convergence and uniform convergence, continuity, and uniform continuity. Three hours lecture per week.

MA 382 ADVANCED CALCULUS II 3 cr.
Prerequisite: MA 381.
Includes study of convergence sequences in R, global properties of continuity, uniform continuity, differentiation in R, Reimann integrals, and infinite series. Three hours lecture per week.

MA 421 INTRODUCTION TO TOPOLOGY 3 cr.
Prerequisite: MA 115.
Study of sets, functions, continuity, compactness, the separation axioms, and metric spaces; application of topology to analysis is demonstrated. Three hours lecture per week.

MA 423-425 COMPLEX VARIABLES I AND II 3 cr. each
Prerequisite: MA 115.
Introduction to theory of functions of a complex variable; topics included are elementary functions, analytic functions, conformal mapping, integration, series, and applications. Three hours lecture per week.

MA 452 SEMINAR IN TEACHING ALGEBRA 1-4 cr.
MA 453 SEMINAR IN TEACHING GEOMETRY
MA 454 SEMINAR IN TEACHING GENERAL MATHEMATICS
Seminars are designed for pre-student teacher. Students in each class will gain insights into the problems in teaching each topic, and become aware of the materials available and methods of instruction geared to the special type of student. Education majors only.

MA 471 ADVANCED CALCULUS FOR APPLICATIONS 4 cr.
Prerequisite: MA 019 or 115
Selected mathematical topics that are encountered in intermediate and advanced physics. Four hours lecture per week.

MA 480-489 SEMINAR IN MATHEMATICS 1-4 cr.
These seminars cover topics such as game theory, optimization, calculus of variations, etc., beyond the scope of the courses normally given. Seminar topics for a given semester will be available at time of registration. Course structure is at discretion of professor.

ED 456 TEACHING MATHEMATICS IN THE SECONDARY SCHOOL 3 cr.
(To be taken the semester or summer session preceding student teaching.)
Prepares students to teach mathematics in modern secondary school. Lesson planning and presentation evolves from examination of teaching strategies, use of media in teaching mathematics, and handling of individual differences. Three hours lecture per week.

Courses for Elementary Education Majors Only

MA 160 MATHEMATICS FOR ELEMENTARY TEACHERS I 3 cr.
Topics included are: sets, concepts of logic, mathematical systems, systems of numeration developing the sets of integers, rational numbers, and real numbers. Three hours lecture per week.

MA 250 MATHEMATICS FOR ELEMENTARY TEACHERS II 3 cr.
Prerequisite: MA 160
Topics included are: sentences in one variable, sentences in two variables, non-metric geometry, metric geometry, coordinate geometry, introduction to statistics and probability. Three hours lecture per week.

MA 251 BASIC CONCEPTS OF ALGEBRA (ELEMENTARY) 3 cr.
Prerequisite: MA 250.
Treats topics touched upon in earlier courses but from a more axiomatic point of view; included are: language and proof in elementary algebra, algebraic structures, real numbers as a complete ordered field, algebraic expressions and functions and (if time permits) complex number system. Three hours lecture per week.

MA 350 FOUNDATIONS OF INFORMAL GEOMETRY (ELEMENTARY) 3 cr.
Prerequisite: MA 250
In line with present trends in mathematics curriculum for elementary schools, topics in geometry are studied from intuitive, informal approach. Activities and materials for teaching geometrical concepts to children are integral part of course. Three hours lecture per week.

MA 351 PRE CALCULUS MATHEMATICS (ELEMENTARY) 3 cr.
Examines function concept as applied to elementary real number functions and relations (polynomial, periodic and circular, exponential and logarithmic functions). Selected topics from algebra, analytic geometry and trigonometry included as time permits. Sources of activities and materials that develop the conceptual foundation of these topics for children will be investigated also. Three hours lecture per week.

EL 313 TEACHING MATHEMATICS IN THE ELEMENTARY SCHOOLS 3 cr.
Prerequisite: MA 160, for Special Education Majors.
Prerequisite: MA 250, for Elementary Education Majors.
Emphasis given to recent developments in curriculum and instruction, techniques for developing concepts, implications of recent research and resources and materials helpful to prospective teachers. Three hours lecture per week.

NATURAL SCIENCES

CHARLES R. FUGET, DIRECTOR

The program leading to the Bachelor of Science degree in Natural Sciences is designed to prepare students for various professional schools — optometry, podiatry, pharmacy, dentistry (the natural science major is not recommended for medical school preparation). The degree is offered by the School of Arts and Sciences.

In addition to the University's General Education requirements and the requirements of the School of Arts and Sciences, a total of 38 credits are required for the major. The distribution is: Biology, 14 cr.; Chemistry, 16 cr.; Physics, 8 cr.; and Mathematics or Computer Science, 7 to 8 cr.

NOTE: The credits in Natural Science and in Mathematics INCLUDE those required in the General Education portion of the degree requirements.

PHILOSOPHY DEPARTMENT

ROBERT M. HERMANN, CHAIRPERSON: BOONE, CHAN, FERRARA, KANNIWISHER, LIN, MONTGOMERY, SCHAUB.

Philosophy (Major and Minor)

The program in philosophy is designed to provide the student with a capacity for thinking clearly, a critical attitude and the ability to reason theoretically.

The major offers the background required for graduate work in philosophy. Those whose primary interests are in other disciplines will find philosophy courses which relate directly to their fields on a theoretical level. Both the minor and double major are especially desirable for their reflective benefits and because of the essentially interdisciplinary nature of philosophy.

Requirements for Major and Minor Philosophy

MAJOR		MINOR
	PH 101 Methods of Critical Thinking or	
3 cr.	PH 221 Logic I	3 cr.
3 cr.	PH 324 History of Philosophy I	3 cr.
3 cr.	PH 325 History of Philosophy II	3 cr.
18 cr.	Departmental Electives	6 cr.
27 cr. total		15 cr. total

No more than one 100-level course may be counted toward the major or minor. Majors concentrating in Philosophy may take up to 9 hours in Religious Studies, minors no more than 3 hours. These courses are indicated in the catalog by an asterisk.

Religious Studies

A program of courses in religious studies including a minor is offered by the department. These courses are indicated with an asterisk. The program in religious studies is designed to provide a balanced, non-sectarian approach leading to a better understanding of the phenomenon of religion in human experience.

Requirements for minor in Religious Studies

No more than one 100-level course may be counted among the required fifteen hours. One philosophy course (3 hrs.) may be included among the departmental electives.

REQUIRED

PH 310	Western Religious Thought in Development	3 cr.
PH 340	Contemporary Western Religious Thought	3 cr.
PH 311	Oriental Religio-Philosophic Thought	3 cr.
	Departmental Electives	6 cr.
		15 total

Pre-Law Program

The Philosophy Department participates in the university Pre-Law Minor Program whereby a student majors in one of several academic disciplines including philosophy and also meets the pre-law minor requirements. (See "Pre-Professional Programs", page 67.) Students interested in the philosophy major/pre-law minor should consult with the departmental pre-law advisor. Philosophy courses included in the pre-law minor program are as follows:
PH 221, Logic I, PH 222, Ethics and PH 327 American Philosophic Thought.

COURSE DESCRIPTIONS

PH 100 INTRODUCTION TO RELIGION* 3 cr.
A beginning approach to the study of religion. Questions discussed will include: the nature of religion, types of religion, origins of religion, conceptions of diety, the religious nature and destiny of man, religion and science, religion and society, and contemporary religious issues.

PH 101 METHODS OF CRITICAL THINKING 3 cr.
A workshop designed to develop students' ability to critically analyze deductive and inductive argumentation, rhetoric and persuasion with examples drawn from media, textbooks, advertising, scholarly works, personal contacts, etc. Emphasis upon the nature of definition, clarification of meaning, detection of fallacies, scientific methodology.

PH 110 WORLD RELIGIONS* 3 cr.
History, comparative theology, ritual and contemporary influences of world's major religions. A nonsectarian study of Hinduism, Buddhism, Confucianism, Taoism, Shinto, Zoroastrianism, Judaism, Christianity, and Islam.

PH 120 INTRODUCTION TO PHILOSOPHY 3 cr.
Designed to acquaint the beginning student with philosophical problems and methods in such areas as metaphysics, epistemology, logic, value theory and philosophy of religion.

Electives

PH 210 WORLD SCRIPTURES* 3 cr.
Major sacred writings of Hindu, Buddhist, Zoroastrian, Moslem, Confucian, Taoist, and Judeo-Christian traditions will be studied from point of view of their religious significance.

PH 221 LOGIC I 3 cr.
An introduction to symbolic logic dealing with the symbolization of deductive arguments in the sentential calculus, syllogistic calculus

*Program in Religious Studies.

and quantificational calculus, including the logic of relations. Natural deduction proofs, truth trees and other tests of validity are covered.

PH 222 ETHICS 3 cr.
Investigation of efforts to rationally justify moral judgment. What is the "moral?" Are moral notions cultural, rational, divine, or innate in origin? Are they "relative" or "absolute?" Are they intuitive, cognitively meaningless, or supportable by "good reasons?"

PH 223 PHILOSOPHY OF ART 3 cr.
Meaning of aesthetics as a philosophical discipline; methodological questions; a classification of problem areas; questions of imitation, history and art, the artist, the audience; consideration of some of the major western and non-western writers' positions. Nature of artistic creativity; art and anarchy; chance and art; definition of art in the present culture.

PH 300 PHILOSOPHY OF LANGUAGE 3 cr.
An investigation of issues in the philosophy of language and related issues in linguistics (including anthropological linguistics, sociolinguistics and psycholinguistics). Topics include, e.g., the influence of language on perception, rationalist/empiricist perspectives on language acquisition, language and political control, reference, meaning, truth.

PH 310 WESTERN RELIGIOUS THOUGHT IN DEVELOPMENT* 3 cr.
Theological development of the Judeo-Christian religious tradition, approached through indepth study of selected writings from the early Church Fathers to the Protestant Reformers.

PH 311 ORIENTAL RELIGIO-PHILOSOPHIC THOUGHT* 3 cr.
Advanced study in those religious philosophies which have shaped the oriental worldviews and ways of life. Emphasis on Hinduism, Jainism, Buddhism, Confucianism, Taoism, Mohism, and Shinto.

PH 321 LOGIC II 3 cr.
Prerequisite: PH 221 or permission of instructor. A continuation of Logic I designed to enable students to evaluate consistency of statements, validity of arguments, soundness and completeness of formal systems. Focus on quantificational calculus and inductive logic.

PH 323 POLITICAL PHILOSOPHY 3 cr.
Political thought of such major classical theorists as Plato, Aristotle, Cicero, Augustine, Aquinas, Hobbes, Rousseau, Locke, Marx, and Mill, examined against the background of metaphysical roots from which their political views derive.

PH 324 HISTORY OF PHILOSOPHY I 3 cr.
Prerequisite: PH 120 or departmental permission.
Western philosophy of pre-Socratic, classical Greek, Roman and medieval periods. Special attention given to Plato, Aristotle, Augustine, and Aquinas, as well as the philosophic schools.

PH 325 HISTORY OF PHILOSOPHY II 3 cr.
Prerequisite: PH 120 or departmental permission.
Continuation of PH 324, beginning with 15th century Renaissance thought and ending with the 19th century precursors of contemporary philosophies.

PH 327 AMERICAN PHILOSOPHIC THOUGHT 3 cr.
Study of the more original and influential postures developed in America from colonial period to present, and of the thinkers who gave them their most complete expressions.

PH 329 PHILOSOPHY OF RELIGION 3 cr.
Philosophical problems in religious thought: nature of religious experience, mysticism, defining "religion," conceptions of deity, existence of God, meaning of religious language, faith, and knowledge.

*Program in Religious Studies.

PH 330 PHILOSOPHY OF SCIENCE 3 cr.
An investigation into nature of formal and empirical sciences: structure of scientific thought and its dependence upon or independence of theory; the logical and metaphysical status of scientific "laws" and theoretical concepts; reductionism in science; the concept of causality; the logic of explanation; problems in confirmation theory; science and value.
(No special background required. Recommended for math and science majors.)

PH 331 THEORY OF KNOWLEDGE 3 cr.
Investigation into problems involved in justifying knowledge claims and a consideration of methods suggested for their resolution. Particular attention paid to problems of certainty, objectivity, perception and truth.

PH 340 CONTEMPORARY WESTERN RELIGIOUS THOUGHT* 3 cr.
Introduction to thought of such contemporary theologians as Bonhoeffer, Buber, Bultmann, Kierkegaard, Teilhard, Tillich, Barth, Brunner and Niebuhr.

PH 410 CONTEMPORARY PHILOSOPHY 3 cr.
Survey in depth of 20th century philosophic scene; to include logical positivism, logical and linguistic analysis, existentialism, and phenomenology.

PH 420 METAPHYSICS 3 cr.
Divergent views of the subject's nature and of the main questions which it raises; being, form, substance, unity, mind, existence, necessity, possibility, time, eternity, space, and the self.

PH 481 SPECIAL TOPICS 3 cr.
Topical courses which will vary from semester to semester. See current schedule of classes.

PH 482 INDEPENDENT STUDY 1-6 cr.
Individual students wishing to pursue philosophical or religious studies interests not covered in department's regular offering may do so by seeking approval for independent study. Make inquiry of the chairperson. Upon approval students are guaranteed at least five hours of faculty time per credit. All programs of study must be accepted by the department as a whole. May be taken more than once to a maximum of 6 credits. (This option is available to both philosophy majors and non-majors.)

*Program in Religious Studies.

PHYSICS DEPARTMENT

GARY L. BUCKWALTER, CHAIRPERSON: BERRY, EDDY, FOX, GAGGINI, HERSHMAN, MATOLYAK, MATOUS, McNAMARA, RAMSEY, RIBAN, ROBERTS, WHITSON.

The Physics Department aims to fully prepare qualified young men and women for careers in physics. Two degrees are offered within the School of Arts and Sciences: the Bachelor of Science in Physics and the Bachelor of Arts in Physics. Each of these is adequate preparation for those wishing to enter a graduate program in physics or wishing to pursue research in industrial technology or for those wishing a strong physics background before aiming at their direct goal of medical research, air pollution control, etc. Two degrees are provided within the School of Education, the Bachelor of Science in Education with a Physics major and the Bachelor of Science in Education with a Physics-Mathematics major. The department also provides a minor in Physics, as well as general science courses for those who wish to be truly liberally educated with a working knowledge of the rudiments of physical science.

CURRICULA

Core Program

Requirements for ALL Physics programs are 18 credits in Physics and 18 credits in Mathematics as follows:

Physics	
*PY 131-0 — Physics I-C Lecture	3 cr.
*PY 132-0 — Physics II-C Lecture	3 cr.
*PY 131-1 — Physics I-C Lab	1 cr.
*PY 132-1 — Physics II-C Lab	1 cr.
PY 222 — Mechanics I	2 cr.
PY 322 — Electricity and Magnetism I	2 cr.
PY 331 — Modern Physics	3 cr.
PY 350 — Intermediate Experimental Physics I	3 cr.
Mathematics	
*MA 017 — Calculus I for Physics	4 cr.
*MA 019 — Calculus II for Physics	4 cr.
MA 361 — Ordinary Differential Equations	3 cr.
MA 471 — Introduction to Applied Math	4 cr.
CO 200 — Introduction to Computers or CO 110 — Introduction to Computer Science	3 cr.

*Or appropriate substitute.

B. S. in Physics

In addition to the Core Program, requirements for the degree of Bachelor of Science in Physics are 24 more credits in Physics and 3 more credits in Mathematics, as follows:

Physics	
PY 223 — Mechanics II	2 cr.
PY 231 — Electronics	4 cr.
PY 242 — Optics	3 cr.
PY 323 — Electricity and Magnetism II	2 cr.

PY 342 – Thermal and Statistical Physics	3 cr.
PY 351 – Interm. Exp. Physics II	3 cr.
PY 473 – Quantum Mechanics I	4 cr.
PY 472 – Nuclear Physics	
or	
PY 490 – Solid State Physics	3 cr.
Physics Elective	3 cr.
Mathematics One of the following:	
MA 233 – Intro to Linear Algebra	3 cr.
MA 363 – Introduction to Probability	3 cr.
MA 381 – Advanced Calculus I	3 cr.
MA 423 – Complex Variables I	3 cr.
CO 250 – Intro to Numerical Methods	3 cr.

B. A. in Physics

In addition to the Core Program, requirements for the degree of Bachelor of Arts in Physics are 18 more credits in Physics as follows:

Physics	
PY 223 – Mechanics II	2 cr.
PY 231 – Electronics	4 cr.
PY 323 – Electricity and Magnetism II	2 cr.
PY 351 – Interm. Exp. Physics II	3 cr.
PY 473 – Quantum Mechanics I	4 cr.
Physics Elective	3 cr.

In addition, students are required to complete a two-semester Natural Science sequence other than Physics and a two-semester advanced Social Science or a two-semester advanced Natural Science sequence.

B. S. in Education (Physics Major)

In addition to the Core Program, requirements for the degree of Bachelor of Science in Education with a Physics major are 10 more credits in Physics and 8 credits in Chemistry as follows:

Physics	
PY 231 – Electronics	4 cr.
PY 242 – Optics	3 cr.
Physics Elective	3 cr.
Chemistry	
CH 111-112 – General Chemistry I and II	4 cr. each

B. S. in Education (Physics – Mathematics Major)

In addition to the Core Program, requirements for the degree of Bachelor of Science in Education with a combined Physics-Mathematics major are 6 more credits in Physics and 12 more credits in Mathematics, as follows:

Physics	
PY 242 – Optics	3 cr.
Physics Electives	3 cr.
Mathematics	
MA 231 – Intro to Algebraic Structures	3 cr.
MA 233 – Intro to Linear Algebra	3 cr.
MA 355 – Foundations of Geometry I	3 cr.
MA 381 – Advanced Calculus I	3 cr.

Minor in Physics

To minor in Physics, a student must offer 15 credits in Physics.

COURSE DESCRIPTIONS

PY 101 PHYSICS AND OUR ENVIRONMENT 3 cr.
An overview of the areas of energy, transportation and pollution. These topics are approached via the relevant concepts of physical science and physics. Three hours lecture per week.

PY 111-0 PHYSICS I LECTURE 3 cr.
Prerequisites: Elementary algebra and trigonometry.
General college physics; mechanics, wave motion, and sound.

PY 112-0 PHYSICS II LECTURE 3 cr.
Prerequisite: PY 111-0
Electricity and magnetism, heat, light, atomic and nuclear physics, and an elementary introduction to relativity and quantum theory.

*PY 111-1 PHYSICS I LAB 1 cr.
Physics laboratory at level of Physics I; exercises in mechanics, wave motion, and sound. Three hours laboratory per week.

*PY 112-1 PHYSICS II LAB 1 cr.
Physics laboratory at level of Physics II; exercises in optics, electricity and magnetism, and radioactivity. Three hours laboratory per week.

PY 131-0 PHYSICS I-C LECTURE 3 cr.
Prerequisites: MA 013, 017, or 111, at least concurrently.
A calculus-based course in general college physics; topics covered are similar to those covered in Physics 111, but are treated in more depth through use of calculus.

PY 132-0 PHYSICS II-C LECTURE 3 cr.
Prerequisites: MA 015, 019, or 113, at least concurrently.
Continuation of Physics I-C; topics covered are similar to those covered in Physics II, but are treated in more depth through the use of the calculus.

*PY 131-1 PHYSICS I-C LAB 1 cr.
Sequence of physics laboratory at same level as Physics I-C; exercises in mechanics, wave motion, sound and kinetic theory. Three hours laboratory per week.

*PY 132-1 PHYSICS II-C LAB 1 cr.
Sequence of physics laboratory at same level as Physics II-C; exercises in optics, electricity and magnetism, and radioactivity. Three hours laboratory per week.

PY 151-0 MEDICAL PHYSICS LECTURE 3 cr.
Development of concepts and principles of physics with a strong emphasis as to their use and application in medical and other biophysical areas.

PY 151-1 MEDICAL PHYSICS LAB 1 cr.
Experimental work dealing with applications of physical principles to field of medicine. Practical experience with use of electronic equipment, chart recorders, etc., of type found in modern day medicine will be introduced.

PY 222 MECHANICS I 2 cr.
Prerequisites: PY 111 or 131; MA 015, 019, or 113.
Dynamics of a particle in one, two and three dimensions, central forces including planetary and satellite motion, energy in particle dynamics, statics, systems of particles. Two hours lecture per week.

PY 223 MECHANICS II 2 cr.
Prerequisites: PY 222, MA 071 or MA 361.
Mechanics of a rigid body, constraints, oscillations, wave motion, introduction to Lagrangian and Hamiltonian formulation and relativistic mechanics. Two hours lecture per week.

*Physics 111-1, 112-1, 131-1, 132-1 also satisfy the General Education requirement for a laboratory science.

PY 231 ELECTRONICS 4 cr.
Prerequisites: PY 112-0 or 132-0; MA 015, 019 or 113.
Circuit theory, transients, vacuum-tube and transistor circuits, frequency response, input and output impedance, feedback and electronic noise. Operational amplifiers and digital electronics. Three hours lecture, 3 hours laboratory per week.

PY 242 OPTICS 3 cr.
Prerequisites: PY 112-0 or 132-0; MA 015, 019 or 113.
Geometrical optics, physical optics, including interference, diffraction and polarization. Quantum Optics is introduced. Three hours lecture per week.

PY 322 ELECTRICITY AND MAGNETISM I 2 cr.
Prerequisite: PY 222.
Electrostatic potential theory, dielectries, dipole theory, magnetostatics, Maxwell's equation for static fields, and Legendre's polynomials and other approximation methods. Two hours lecture per week.

PY 323 ELECTRICITY AND MAGNETISM II 2 cr.
Prerequisite: PY 322.
Time-dependent form of Maxwell's equations, electromagnetic induction, vector potential, magnetism, radiation fields, and poynting vector. Three hours lecture per week.

PY 331 MODERN PHYSICS 3 cr.
Prerequisites: PY 112-0 or 132-0; MA 015, 019 or 113.
Introduction to particle and wave properties of matter, atomic structure, relativity, solid state and nuclear physics. Three hours lecture per week.

PY 342 THERMAL AND STATISTICAL PHYSICS 3 cr.
Prerequisites: PY 112-0 or 132-0, MA 015, 019, or 113.
Thermometry, laws of thermodynamics, low-temperature physics, entropy, properties of ideal gas, and an introduction to statistical mechanics. Three hours lecture per week.

PY 350 INTERMEDIATE EXPERIMENTAL PHYSICS I 3 cr.
Prerequisites: PY 242 and 331.
Required fundamental experiments in areas of mechanics, optics, modern physics and heat. Six hours laboratory per week.

PY 351 INTERMEDIATE EXPERIMENTAL PHYSICS II 3 cr.
Prerequisite: PY 350.
Increasingly sophisticated experiments in essential areas of physics. Analog and digital computers and the Van de Graaff are available. Three hours lecture per week.

PY 421 SELECTED EXPERIMENTS I 3 cr.
Prerequisites: PY 231 and 331.
Experiments selected from advanced optics, microwaves, radio and optical astronomy, semiconductor properties, cryogenics, and classic experiments in atomic physics. Six hours laboratory per week.

PY 432 ADVANCED ELECTRONICS 3 cr.
Prerequisite: PY 231.
Digital Measurement, Switching Circuit, Logic circuits, Counting, Coding, Input and Output, AD and DA converters, Computer organization. Two hours lecture, 3 hours laboratory per week.

PY 472 NUCLEAR PHYSICS 3 cr.
Prerequisite: PY 331.
Survey of nuclear physics; nuclear size; nuclear mass, reaction theory, types of radioactive decay, nuclear models, nuclear forces and elementary particles. Three hours lecture per week.

PY 473 QUANTUM MECHANICS I 4 cr.
Prerequisites: PY 222 and 331.
Quantum mechanics following method of Schrodinger; the theory is applied to properties of harmonic oscillator, hydrogen atom, electron in a magnetic field and radioactive decay of alpha particles. Four hours lecture per week.

PY 474 QUANTUM MECHANICS II 3 cr.
Prerequisite: PY 473
A sequel to Phys 473, General Principles of quantum mechanics

are further developed. Matrix mechanics, angular momentum theory, time-independent perturbations, variational methods, spin, and introduction to the many-body problem. Three hours lecture per week.

PY 490 SOLID STATE PHYSICS 3 cr.
Prerequisites: PY 223 and 331.
Reciprocal lattice, crystal structure, the quantization of fields to produce quasi-particles such as phonons, magnons, excitons. Fermi gas of electrons, energy bands, semiconductor crystals, and photoconductivity. Three hours lecture per week.

PY 498 PROBLEMS IN PHYSICS 1-4 cr.
Prerequisites: PY 112-0 or 132-0, MA 013, 017, or 111.
Students select from topics such as: Physics education projects, spectrum analysis, cosmic rays, digital and analog computer applications, astrophysics, Van de Graaff accelerator experiments, cryogenics and electro-paramagnetic resonance.

General Education Courses

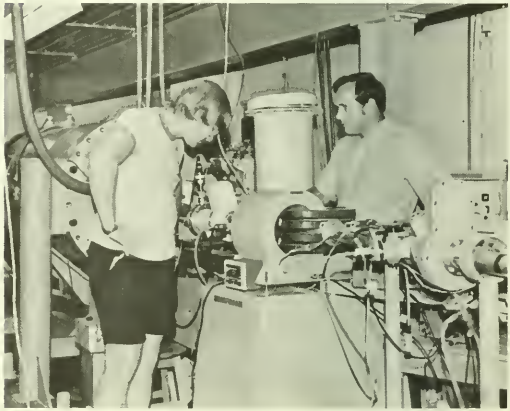
SC 105 PHYSICAL SCIENCE I 4 cr.
The physical world is studied by focusing on concepts of matter and energy; emphasis on physical phenomena that can be explained by Physics and Astronomy. Three hours lecture, 2 hours laboratory per week.

SC 106 PHYSICAL SCIENCE II 4 cr.
See course descriptions in Chemistry Department section.

SC 401 THE GROWTH OF SCIENCE AND ITS CONCEPTS I 3 cr.
Traces development of science concepts and their interaction with growing society of Western Civilization, from earliest beginnings to time of Newton. Treatment is non-mathematical. Three hours lecture per week.

SC 402 THE GROWTH OF SCIENCE AND ITS CONCEPTS II 3 cr.
Influence and development of concepts of Science in Western Civilization are studied from Newton to present time; stress placed on non-mathematical understanding of the basic ideas. Three hours lecture per week.

ED 457 TEACHING PHYSICS IN THE SECONDARY SCHOOL 3 cr.
Provides foundation for a prospective secondary school physics teacher in the area of current professional practices, curriculum, and methods.



POLITICAL SCIENCE DEPARTMENT

RICHARD F. HEIGES, CHAIRPERSON: CARONE, CHASZAR, GREEN, KEENE, KRITES, LEE, MORRIS, PALMER, PLATT, SMITH, THORPE, WILSON.

Political scientists focus upon political systems, including the effect of environment on the system, system inputs, the decision-making agencies which render binding public policies, and system outputs. Approaches to the study of government and politics include: the NORMATIVE approach, in which philosophical attention centers on values by asking the question, "What ought to be?"; and the BEHAVIORAL approach, in which an attempt is made to develop verifiable theories through scientific methods by asking the questions, "how" and "why?"

Students majoring in political science find employment as public school teachers and also opportunities, usually through civil service examinations, in federal, state, and local governments, and with private civic groups, interest groups, and political groups. Students who go on to graduate work find appointments at higher levels and in college teaching. Students majoring in political science, as in any of the social sciences, are in demand by employers in business and industry.

The political science major is also especially suitable for the pre-law student.

Degrees offered by the Political Science Department are the Bachelor of Arts in Political Science; the Bachelor of Arts in Government and Public Service; the Bachelor of Arts in Pre Law-Political Science; and the Bachelor of Science in Education with a Social Science Major, concentrating on Political Science. The department also offers a minor in political science.

An interdisciplinary major sponsored by the Political Science Department is International Studies. For information on this major, see page 123.

CURRICULA

Core Program

Required of ALL Political Science majors and minors (except Government and Public Service majors) are six credits in the following basic courses:

PS 111 – American Politics (formerly American Citizenship)	3 cr.
PS 101 – World Politics	3 cr.

B. A. in Political Science

In addition to the Core Program, requirements for the Bachelor of Arts in Political Science are 30 more credits in political science, distributed so that at least one course is in three of the following four areas: American Studies, Political Theory, Public Administration, and International Studies. Students preparing for graduate study should take PS 499 – Scope and Methods, at least one Political Theory course, and courses in Computer Science and Statistics.

B.A. in Government and Public Service

This major requires 36 s.h. as follows: PS 251, 370, 371, Economics 330, 336; Psychology 358; Sociology 345; Psychology 300 or Sociology 262; plus four of the following: PS 250, 350, 351, 352, 353, 354, 355, 358, 499, 458 (Internship). Also majors should select one of five interdisciplinary minors prescribed by department. For descriptive information about this new interdisciplinary program, contact department chairperson.

B. A. in Pre Law-Political Science

The requirements for this major are the same as for the political science major with the addition of a 21 s.h. pre-law interdisciplinary minor.

For requirements in a pre-law minor students should contact the departmental pre-law adviser.

B. S. in Education (Political Science Concentration)

In addition to the Core Program, requirements for the degree of Bachelor of Science in Education with a major in Social Science, Political Science concentration, are 9 more credits in political science. Recommended electives are PS 250, 251, 350, 351, 353, or 354 and 499; desirable alternatives are PS 280, 283, 285, 352, 359, and 381-386.

Minor in Political Science

A minor in political science consists of 15 credits in political science, composed of the 6-credit Core Program and 9 more credits elected from all political science courses.

COURSE DESCRIPTIONS

Required Courses

PS 111 AMERICAN POLITICS 3 cr.
Introduction to American national government and politics, emphasizing Constitution, Party system, Congress, Presidency, Courts, and problems in national-state relations, civil rights, foreign policy, and social and economic policies.

PS 101 WORLD POLITICS 3 cr.
Analysis of contemporary (Post 1945) state system and forces shaping world in which we live. Student is given a framework within which he can analyze contemporary international politics.

American Studies

PS 250 CONTEMPORARY POLITICAL PROBLEMS 3 cr.
Emphasizes dynamics of government as they are evidenced in public opinion, pressure groups, political parties and our governmental institutions; attention also directed toward the political-economic nexus within American society.

PS 251 STATE AND LOCAL POLITICAL SYSTEMS 3 cr.
Institutions and processes of state and local governments, with special attention to Pennsylvania; emphasis on nature of federalism, state constitutions, and role of state and local government in an urban society.

PS 298 NEWS INTERPRETATION 1 cr.
Designed to provide students with techniques for intelligent reading of daily newspaper and weekly news magazines and to give some understanding of current affairs at state, national and international levels.

PS 350 THE PRESIDENCY 3 cr.
Examination of Office of President, with attention to constitutional foundations, evolution, structure, powers, and functions; some comparisons between presidential and parliamentary systems and between offices of President and Governor.

PS 351 LEGISLATIVE PROCESS 3 cr.
Functional study of legislative bodies and process of legislation, covering organization of legislative assemblies, operation of committee system, procedures, bill drafting, aids, and controls over legislation.

PS 352 PUBLIC OPINION 3 cr.
Study of nature of public opinion within political system; attention to formation of public opinion, expression, propaganda, mass media, and interest groups.

PS 353 AMERICAN POLITICAL PARTIES 3 cr.
The role of people, parties, and pressure groups in politics of American democracy; attention to sectional and historical roots of national politics, voting behavior, pressure group analysis, and campaign activities.

PS 354 METROPOLITAN PROBLEMS 3 cr.
Analyzes multiplicity of problems facing our metropolitan areas. Contemporary developments such as urban renewal, and shrinking tax base, federal aid to cities, subsidized mass transit, municipal authorities, and political consolidation are examined.

PS 355 INTERGOVERNMENTAL RELATIONS 3 cr.
Explores characteristics of federal systems of government, with emphasis on theories, origins, institutions, problems in intergovernmental relations in United States, federal systems in other nations, and trends.

PS 358 JUDICIAL PROCESS 3 cr.
Explores nature and limits of judicial power, courts as policy-making bodies, selection of judges, decision process, external forces impinging on the courts, and role of Supreme Court in its relationship with Congress, the Presidency, and federalism.

PS 359 CONSTITUTIONAL LAW AND CIVIL LIBERTIES 3 cr.
Study of civil liberties and civil rights issues through leading Supreme Court decisions; topics treated include First Amendment rights, procedural due process and the Bill of Rights, and Equal Protection problems in civil rights.

Political Theory

PS 360 POLITICAL PHILOSOPHY 3 cr.
Evolution of the Western political tradition of Constitutionalism from Plato and Aristotle to Locke and Montesquieu: religious and rational foundations; medieval theories of authority and representation; early modern theories of the state and sovereignty; concepts of law; natural rights, liberty and equality, and justice treated in detail.

PS 361 MODERN POLITICAL THOUGHT 3 cr.
Development of Western political thought since the mid-16th century: classic liberalism; conservative thought; modern irrational ideologies such as fascism and national socialism; socialist thought, contemporary collectivist liberalism.

PS 362 AMERICAN POLITICAL THOUGHT 3 cr.
Develops an understanding of American political thinkers from the Puritans through the current Afro-American writers. Political phenomena is examined relating to past writings and inferences are made for future political behavior.

Public Administration

PS 370 PUBLIC ADMINISTRATION 3 cr.
Theories of organization and structural organization, personnel processes, executive functions, financial administration, the politics of administration, public relations, and problems of democratic control of bureaucracy.

PS 371 FEDERAL ADMINISTRATIVE POLICY 3 cr.
Intensive study of role of Federal agencies and their administrators in determining and developing public policy. Public administration in practice is emphasized by utilizing case studies.

International Studies

PS 280 COMPARATIVE GOVERNMENT I — WESTERN POLITICAL SYSTEMS 3 cr.
Analyzes western political systems with emphasis upon major contemporary democratic governments of Europe. Analyzes and compares their political cultures, political institutions and political processes.

PS 281 INTERNATIONAL RELATIONS 3 cr.
Provides a conceptual framework for understanding sovereignty, nationalism, power, security, dispute settlement, and diplomatic, legal, economic, and military relations of nation-states.

PS 282 INTERNATIONAL LAW AND ORGANIZATIONS 3 cr.
Analysis of nature and function of international law in relations among nations, and an inquiry into purposes, structures, and actions of contemporary international political organizations, with emphasis on United Nations.

PS 283 AMERICAN FOREIGN POLICY 3 cr.
Examines formulation and execution of American foreign policy, with attention to governmental institutions, mass media, interest groups, and public opinion; emphasizes contemporary problems.

PS 285 COMPARATIVE GOVERNMENT II: NON-WESTERN POLITICAL SYSTEMS 3 cr.
Analyzes major non-western political systems with emphasis upon authoritarian and totalitarian systems. Analyzes and compares in a systematic manner their political cultures, political institutions and political processes.

PS 380 SOVIET POLITICS 3 cr.
Essential features of Communist party and government of U.S.S.R., including geographical and historical background and ideological and theoretical foundations. PS 280, Comparative Government, should be taken prior to this course.

PS 381-386 POLITICAL SYSTEMS 3 cr. each
Intensive, comparative study of the government and politics of a selected region. Suggested prerequisite: PS 280 and/or 285.
PS 381 — Latin America
PS 382 — Africa
PS 383 — Asia
PS 384 — Middle East
PS 385 — Central and Eastern Europe
PS 386 — Atlantic Community

PS 389 DEVELOPING NATIONS 3 cr.
Political characteristics of emerging nations; impact of economic and social change upon political structure; evolving patterns of political development; and techniques of nation-building. Suggested prerequisite: PS 280 and/or 285.

Research, Study, and Methodology

PS 480 POLITICAL SCIENCE SEMINAR 3 cr.
Readings and brief written assignments on a specific topic determined by the instructor in charge.

PS 481 SPECIAL TOPICS 3 cr.
Readings and brief written assignments on a specific topic determined by the instructor in charge.

PS 482 INDEPENDENT STUDIES 3 cr.
Readings and brief written assignments on a specific topic determined by the instructor in charge.

PS 485 HONORS IN POLITICAL SCIENCE 3 cr.
Prerequisites: 15 credits in Social Sciences, including 9 credits in Political Science, 2.0 QPA in Social Studies, and permission of department chairman and instructor.
Directed readings and one or more papers; topic to be selected by instructor and student.

PS 458 POLITICAL SCIENCE INTERNSHIP 2-12 cr.
Prerequisites: 9 credits in Political Science with 2.0 QPA; PS 111; approval of instructor and Chairperson.
Practical experience in government and politics. "Log" and research project required. Course grade determined by the instructor

PS 499 SCOPE AND METHODS 3 cr.
Prerequisite: PS 111.
Explores approaches, methods, and tools of Political Science; designed to prepare student who plans to do graduate work in Political Science. Majors and Minors only.

PSYCHOLOGY DEPARTMENT

RICHARD D. MAGEE, CHAIRPERSON: CARTWRIGHT, EDGAR, GROVER, JACOBS, PATTON, REID, RICH, RITTLE, ROSS, SCHNEIDER, STIRES, TEGLASI, THORNTON, VANDECREEK, WALZ. ADJUNCT PROFESSORS: BESHAI, KLINEDINST, LEVIT, PALMER, PLUMMER, RUSNAK

The program in psychology leads to a Bachelor of Arts degree and is designed to give the student an understanding of the methods and major findings of the science of behavior, with an introduction to several areas of professional application. The major offers the background required for graduate work in psychology and also preparation for such related fields as social work, personnel work, advertising, medicine, law, and theology. The department also offers a minor in psychology.

CURRICULA

B. A. in Psychology

The major in psychology consists of a minimum of eleven courses, including PC 101 — General Psychology and MA 362 — Probability and Statistics, both of which can be used to meet General Education requirements, and Experimental Design and Analysis I and II. At least two courses must be taken from Group A and two courses from Group B below. Psychology majors are required to complete a minor or concentration.

Course Group A

PC 361 — Motivation	3 cr.
PC 362 — Physiological Psychology	3 cr.
PC 363 — Perception	3 cr.
PC 365 — Conditioning and Learning	3 cr.
PC 366 — Human Learning and Memory	3 cr.
PC 367 — Animal Behavior	3 cr.

Course Group B

PC 351 — Intro. to Psych. Measurement	3 cr.
PC 354 — Developmental Psychology OR	3 cr.
PC 355 — Child Psychology	3 cr.
PC 356 — Personality	3 cr.
PC 357 — Abnormal Psychology	3 cr.
PC 358 — Social Psychology	3 cr.

Suggested Course Sequence for Psychology Majors

Freshman Year	
First Semester	PC 101 — General Psychology
Second Semester	MA 362 — Probability & Statistics
Sophomore Year	
First Semester	PC 290 — Exp. Design & Analysis I
Second Semester	PC 291 — Exp. Design & Analysis II
Junior Year	
First Semester	One course from Group A One course from Group B
Second Semester	One course from Group A One course from Group B
Senior Year	At least three additional courses in psychology

Minor in Psychology

A minor in psychology consists of six courses: General Psychology, Probability and Statistics, Experimental Design and Analysis I, one course from Group A, one course from Group B, and one additional course to be selected by the student.

COURSE DESCRIPTIONS

PC 101 GENERAL PSYCHOLOGY 3 cr.
An introduction to the scientific study of behavior.

PC 200 THE PSYCHOLOGY OF ADJUSTMENT 3 cr.
Prerequisite: PC 101.
Designed to present fundamental concepts of psychological adjustment. Emphasis on preventive approaches to maladjustment and psychological disorders. (Cannot be used to meet requirements for major in psychology.)

PC 290 EXPERIMENTAL DESIGN AND ANALYSIS I 3 cr.
Prerequisites: PC 101, MA 362.
A laboratory course devoted to designing, conducting and evaluating results of psychological experiments.

PC 291 EXPERIMENTAL DESIGN AND ANALYSIS II 3 cr.
Prerequisites: PC 101, 290.
A continuation of Experimental Design and Analysis I.

PC 351 INTRODUCTION TO PSYCHOLOGICAL MEASUREMENT 3 cr.
Prerequisites: PC 101, MA 362
Survey of psychological measurement techniques, with emphasis on theoretical assumptions underlying these techniques and discussion of interpretation and limitations of measuring instruments.

PC 354 DEVELOPMENTAL PSYCHOLOGY 3 cr.
Prerequisite: PC 101
Comprehensive study of all factors that contribute to human

development from conception to death, particularly as they relate to psychological development of individual. A survey course directed at students not planning to take PC 355, PC 373, PC 374. Credit toward a major or minor in psychology will not be given for both PC 354 and PC 355.

PC 355 CHILD PSYCHOLOGY 3 cr.
Prerequisite: PC 101
Study of factors that influence total development and behavior of child. Current theories and research are considered, with focus upon optimum development of individual. Credit toward a major or minor in psychology will not be given for both PC 355 and PC 354.

PC 356 PERSONALITY 3 cr.
Prerequisite: PC 101.
Provides comparative analysis of major representative traditional and contemporary theories of personality.

PC 357 ABNORMAL PSYCHOLOGY 3 cr.
Prerequisite: PC 101.
Abnormal behavior studied from statistical, normative, and pathological reference point.

PC 358 SOCIAL PSYCHOLOGY 3 cr.
Prerequisite: PC 101.
Scientific approach to study of behavior and experience of individuals in relation to other individuals, groups, and cultures.

PC 361 MOTIVATION 3 cr.
Prerequisites: PC 101, 290.
Systematic study of how behavior is initiated, sustained, directed, and terminated. Lecture and laboratory.

PC 362 PHYSIOLOGICAL PSYCHOLOGY 3 cr.
Prerequisites: PC 101, 290.
Study of relationship between behavior and anatomy and physiology of nervous system. Lecture and laboratory.

PC 363 PERCEPTION 3 cr.
Prerequisites: PC 101, 290.
Study of perceptual process. Sensory mechanisms for processing information are examined, as well as responses to complex stimuli. Lecture and laboratory.

PC 365 CONDITIONING AND LEARNING 3 cr.
Prerequisites: PC 101, 290.
Examination of basic principles of learning and related phenomena; discussion of classical conditioning, discrimination learning and aversive control of behavior. Lecture and laboratory.

PC 366 HUMAN LEARNING AND MEMORY 3 cr.
Prerequisites: PC 101, 290
Study of methods and findings in areas of verbal learning, retention, and human information processing. Lecture and laboratory.

PC 367 ANIMAL BEHAVIOR 3 cr.
Prerequisites: PC 101, 290,
Comparative survey of behavioral processes, with emphasis on sensory systems and learning, in organisms of different phylogenetic levels. Lecture and laboratory.

PC 373 ADOLESCENT PSYCHOLOGY 3 cr.
Prerequisite: PC 101.
Study of adolescent and his world, especially the physical aspects of adolescence, psychological growth patterns, social pressures and adaptation.

PC 374 PSYCHOLOGY OF ADULTHOOD AND OLD AGE 3 cr.
Prerequisite: PC 101.
Examines developmental and psychological needs of young adult, the middle-aged and elderly, in light of current theory and research.

PC 375 APPLIED SOCIAL PSYCHOLOGY 3 cr.
Prerequisites: PC 101, 358
The application of social-psychological research and analysis to selected public issues.

PC 399 INDUSTRIAL PSYCHOLOGY 3 cr.
Prerequisite: PC 101.
Systematic study of applications of psychology to business and industry.

PC 410 HISTORICAL TRENDS IN PSYCHOLOGY 3 cr.
Prerequisite: PC 101
Comprehensive overview of historical antecedents of contemporary psychology with emphasis on their implications for future developments in the field.

PC 450 INTRODUCTION TO CLINICAL PSYCHOLOGY 3 cr.
Prerequisites: PC 101 and department consent.
Overview of clinical psychology, with emphasis upon clinician's use of methods of evaluation, and treatment and modification of behavior.

PC 451 PSYCHOLOGICAL PRACTICUM 1-12 cr.
Prerequisites: PC 101 and department consent.
Under supervision of psychology department, selected students receive experience in application of psychological techniques. May be taken more than once to a maximum of 12 credits.

PC 480 RESEARCH SEMINAR PSYCHOLOGY 3 cr.
Prerequisites: PC 290 and department consent

PC 481 SPECIAL TOPICS IN PSYCHOLOGY 2-3 cr.
Prerequisites: PC 101 and department consent.
A seminar providing study of selected topics not emphasized in other courses. May be taken more than once to a maximum of 6 credits.

PC 482 INDEPENDENT STUDY IN PSYCHOLOGY 1-3 cr.
Prerequisites: PC 101 and department consent.
Individual students pursue their particular interests in psychology in consultation with a member of the staff. May be taken more than once to a maximum of 6 credits.

SOCIAL SCIENCE

MERLE RIFE (ACTING) ASSOCIATE DEAN

COURSE DESCRIPTIONS

SS 101 CONTEMPORARY SOCIAL SCIENCE 3 cr.
An Interdisciplinary study of a current social topic that uses a team teaching approach. Topics may vary from semester to semester. The course is one option in the Social Science General Education Program.

SS 398 SOCIAL SCIENCE FOREIGN STUDY 2-6 cr.
Directed foreign study, emphasizing historical, political, economic, social and geographical aspects of the area. Background reading, lectures and briefings, diary or evaluative paper. Course credit may be applied as General Education or elective credit. (For details see Center for International Studies.)

Social Science Minor 21 s.h.
A Social Science minor consists of course work in three Social Science departments beyond General Education courses.

SOCIOLOGY-ANTHROPOLOGY DEPARTMENT

DAVID MEHDI AZIMI, CHAIRPERSON: ARROYO, BENTON, BROWN, GERALD, GRANT, HOLTZ, LANHAM, LOUDEN, NEWHILL, OLIN-FAHLE, RAIBOURN, RAWLEIGH, SANDERSON, SNYDER, VEXLER.

The Sociology-Anthropology Department provides an opportunity for studies in two closely related disciplines. Although a student may elect to concentrate his studies in one area more than another, studies in both disciplines are recommended. Sociology and anthropology are both concerned with man's social and cultural setting and the nature of his relationships with his fellow men. Sociology focuses primarily on studies of our own society, whereas anthropology is mainly concerned with non-Western cultures.

Sociology-Anthropology training can be preparatory for a variety of vocations. Teaching in secondary schools or in colleges and universities are vocations of interest to many students. Social work is an area of increasing opportunities. Anthropologists find employment opportunities primarily in higher education, museum work, and in civil service positions. Students planning future studies in theology, law, personnel management or other human relations occupations will find that undergraduate training in sociology and anthropology is eminently appropriate.

Degrees offered by the department are the Bachelor of Arts in Sociology-Anthropology, with concentration in either Sociology or Anthropology, the Bachelor of Science in Education with a major in Social Sciences, concentrating on Sociology. The first degree program is under the School of Arts and Sciences, and the second is under the School of Education. The department also offers a minor.

CURRICULA

A major in Sociology-Anthropology requires a total of 27 credits in the department, including courses noted on the next page.

Core Program

All programs require six credits of Core Program, as follows:

SO 151	Principles of Sociology	3 cr.
AN 110	Introduction to Anthropology	3 cr.

B. A. with Concentration in Sociology

In addition to the Core Program requirements for the degree of Bachelor of Arts with a concentration in Sociology are 21 credits in sociology, distributed as follows:

Required Courses:		
SO 231	Contemporary Social Problems	3 cr.
SO 343	Development of Social Theory*	3 cr.
SO 344	Introduction to Social Research	3 cr.
Sociology Electives		12 cr.

B. A. with Concentration in Anthropology

In addition to the Core Program, requirements for the

Degree of Bachelor of Arts with a concentration in Anthropology are 21 credits in anthropology, distributed as follows:

Required Courses:		
AN 222	Introduction to Physical Anthropology	3 cr.
AN 233	Cultural Symbolism I: Language in Culture	3 cr.
AN 244	Basic Archaeology	3 cr.
Anthropology Electives		12 cr.

B. S. in Education (Sociology Concentration)

In addition to the Core Program, requirements for the degree of Bachelor of Science in Education with a major in Social Science, Sociology concentration, are 9 more credits in sociology, at the student's choice.

Minor in Sociology or Anthropology

A minor in Sociology or Anthropology consists of 15 credits in either discipline composed of the 6-credit Core Program and 9 more credits, elected from either sociology or anthropology courses.

COURSE DESCRIPTIONS

Sociology Courses

SO 151 PRINCIPLES OF SOCIOLOGY 3 cr.
The science of structure and functioning of human groups; taking culture and social institutions as basic materials, studies seeking to record and explain man's social behavior are explored.

SO 231 CONTEMPORARY SOCIAL PROBLEMS 3 cr.
Prerequisite: SO 151.
Explores pressing social issues; problems are defined and solutions explored in light of historical, political, economic, social and anthropological data.

SO 238 INTRODUCTION TO SOCIAL WORK 3 cr.
Prerequisite: SO 151
Introduction to the dynamics of the helping relationship.

SO 262 MODERN SOCIAL INSTITUTIONS 3 cr.
Prerequisite: Sophomore standing or higher.
Focuses on modern social institutions, such as science and technology, arts, industry, etc., and their place in society. Readings, assignments, and topics of discussion determined by instructor.

SO 331 SOCIOLOGY OF HUMAN SEXUALITY 3 cr.
Depth analysis of a formerly taboo topic, human sexuality, whereby current information derived from biological, sociological, and psychological research on human relationships is presented to provide a foundation for self-understanding and societal values.

SO 332 RACIAL AND CULTURAL MINORITIES 3 cr.
Prerequisite: SO 151.
Study of national, racial and religious minorities and divergent heritages in our national life.

SO 333 JUVENILE DELINQUENCY 3 cr.
Prerequisite: SO 151.
Study of some of social and cultural factors that relate to delinquency; emphasis on consequences of societal reaction to delinquency.

SO 334 POPULATION PROBLEMS 3 cr.
Prerequisite: SO 151.
Focus upon population growth and distribution; the present "population explosion" is a topic of central interest.

SO 335 SOCIAL STRATIFICATION 3 cr.
Prerequisite: SO 151.

Study of social status patterns and social mobility; determinants of social class divisions and consequences of class distinction for individuals and society discussed.

SO 336 SOCIOLOGY OF THE FAMILY 3 cr.
Prerequisite: SO 151.
Sociological study of family from various theoretical view points; emphasis on interrelation between structure and function of family and existing and emerging social environment.

SO 337 WORLD CULTURES 3 cr.
A minimal orientation to study of cultural diversity in human societies; emphasis on determinates of cultural variability and problem of ethnocentrism. Not open to Sociology-Anthropology majors in liberal arts. Recommended for Social Science Education students who concentrate in Sociology-Anthropology.

SO 339 THE COMMUNITY 3 cr.
Prerequisite: SO 151.
Analysis of social structure of communities of local level in relation to the national community structure; examination of current problems and future trends.

SO 340 INDUSTRIAL SOCIOLOGY 3 cr.
Prerequisite: SO 151.
Work and milieu of worker; social organizations in industry; problems of workers; industrial morale and team work; and relation of industry to community and society.

SO 341 SOCIOLOGY OF EDUCATION 3 cr.
Prerequisite: SO 151.
A sociological approach to understanding role of educational institutions in American society, with special emphasis on status and role of public school teacher.

SO 342 SOCIAL AND CULTURAL ASPECTS OF HEALTH AND MEDICINE 3 cr.
Prerequisite: 6 credits in Sociology-Anthropology.
Review of fields of medical sociology and anthropology; attention focused on such topics as social background of illness, folk medicine, cultural differences in perceptions of illness, and social organization of health facilities.

SO 343 DEVELOPMENT OF SOCIOLOGICAL THEORY 3 cr.
Prerequisite: 6 credits of Sociology-Anthropology
Examination of historical development of social theory with special attention to classical theorists and theoretical ideas which have contributed most significantly to modern sociology.

SO 344 INTRODUCTION TO SOCIAL RESEARCH 3 cr.
Prerequisite: SO 151
Overview of basic quantitative and qualitative methods and general problems of research design. Problems and projects are assigned.

SO 345 SOCIAL DYNAMICS 3 cr.
Prerequisite: SO 151.
Study of interaction between and among individuals and groups in various social settings; emphasis placed on small groups, socialization, collective behavior, and mass communications.

SO 346 THE HISTORY AND PHILOSOPHY OF SOCIAL WELFARE POLICIES 3 cr.
Prerequisites: Introduction to Social Work, or approval of the instructor.
Beginning with Elizabethan Poor Laws of early seventeenth century England and culminating in examination of the "war on poverty," course will appraise manner by which competing philosophical perspectives have served to inform and been informed by the development of social welfare policies intended to remedy conditions of poverty in Western society.

SO 401 SOCIAL AND CULTURAL CHANGE 3 cr.
Prerequisite: SO 151 or AN 110 and junior standing or permission of instructor.
Focused on effects of innovations as they produce changes in society and cultural patterns; emphasis on technology, urbanization, ecological problems and underdeveloped countries. Students will be able to read in areas of special interest.

SO 451 SPECIAL READINGS IN SOCIOLOGY 3 cr.
Prerequisite: SO 151 and permission of instructor.
Readings on specific topics in sociology, with presentations and class discussions. Instructor guides selection of readings and presentations. May be taken twice for credit (with different instructors who present different topics.)

SO 471 FIELDWORK IN SOCIOLOGY 3-12 cr.
Prerequisites: 12 credits in Sociology (2.5 QPA), including SO 151, SO 231, and SO 238. For sociology majors only. Permission of the instructor.
Supervised experience in community work with cooperating public and private agencies.

SO 480 SOCIOLOGY SEMINAR
A seminar for advanced students devoting itself to an intensive analysis of specialized issues within the discipline.

SO 481 SPECIAL TOPICS IN SOCIOLOGY 3 cr.
Focuses on specialized topics in sociology which are not included among regular course offerings.

SO 482 INDEPENDENT STUDY 1-3 cr.
An opportunity for students to engage in an in-depth analysis of some topic through consultation with a faculty member. Some kind of semester project is ordinarily expected.

SO 483 READINGS IN SOCIOLOGY 1-3 cr.
Readings on special topics in sociology, with presentations and class discussions. Instructor guides selection of readings and presentations.

Anthropology Courses

AN 110 INTRODUCTION TO ANTHROPOLOGY 3 cr.
General consideration of man's biological and cultural adaptations, stressing analysis of the nature of cultural systems as a method for perceiving and understanding variations among men today.

AN 211 CULTURAL ANTHROPOLOGY 3 cr.
Survey of problems and theories in science of culture. Each student makes a study of a particular major anthropologist or theoretical approach.

AN 222 INTRODUCTION TO PHYSICAL ANTHROPOLOGY 3 cr.
Biological evolution and principles of human genetics; evolution of primates and fossil record for the evolution of man stressed; relationship between race and culture discussed.

AN 233 CULTURAL SYMBOLISM I: LANGUAGE IN CULTURE 3 cr.
Focuses on social and cultural functions of language; particular emphasis on problems in anthropology with respect to non-Western languages.

AN 244 BASIC ARCHAEOLOGY 3 cr.
Investigates nature of archaeological data, goals of archaeology, models for history and prehistory, and significant archaeological contributions to knowledge. Includes a survey of excavation methods.

AN 312 WORLD ETHNOGRAPHY 3 cr.
Prerequisite: AN 110 or 211.
Study in depth of specific non-literate cultures to explore questions of cultural integration.

AN 313 OLD WORLD ARCHAEOLOGY 3 cr.
Prerequisite: AN 110 or 244.
Prehistory of Europe and Asia, from Paleolithic through Neolithic developments; emphasis on technology, chronology, ecology, and cultural processes.

AN 314 ETHNOLOGY OF NORTH AMERICAN INDIANS 3 cr.
Prerequisite: AN 110 or 211.
Survey of culture history and culture area characteristics of Indians of North America; detailed study of representative groups related to historical, functional, and ecological concepts.

AN 315 NORTH AMERICAN ARCHAEOLOGY 3 cr.
Prerequisite: AN 110 or 244.
Prehistory of North American Indians, emphasizing technology and stylistics, cultural evolution, and cultural ecology.

AN 316 THE ANTHROPOLOGY OF RELIGION 3 cr.
Prerequisite: AN 110 or 211.
Deals with nature, function and universal characteristics of religion in human society by utilizing the cross-cultural approach. Theories concerning religious phenomena serve as topics for discussion.

AN 317 QUANTITATIVE AND INSTRUMENTAL ARCHAEOLOGY 3 cr.
Prerequisite: AN 244.
Theory and methods for quantitative analysis of archaeological data will be applied to data recovered by University excavation programs. Instruments used for analysis of artifacts, flotation samples, features, soil samples, and for report preparation will be used by each student.

AN 318 MUSEUM METHODS 3 cr.
Prerequisite: AN 110, 211, or 244.
Lecture and laboratory course concentrating on history of museums, natural science and anthropological museum methods and techniques, providing practical experience in exhibit preparation and installation.

AN 319 SOCIAL STRUCTURE AND FUNCTION 3 cr.
Prerequisite: AN 110 or 211.
A survey concerning mechanisms of integration in social organization and their role in the development of societies; Family, Kinship and Ideological systems are stressed.

AN 320 ARCHAEOLOGICAL FIELD SCHOOL 6 cr.
Prerequisite: AN 110 or 244.
Field excavation of selected archaeological sites in Indiana and adjacent counties; opportunity for varied experience in historic and prehistoric Indian sites, both open sites and rock shelters.

AN 321 METHODS OF CROSS-CULTURAL ANALYSIS 3 cr
Prerequisite: AN 110 or 211.
Comparative methods and techniques reviewed and evaluated in relation to the problems they were designed to solve. Statistics and computational equipment will be used in analysis of data derived from Ethnographic Atlas or Human Relations Area Files.

AN 322 CULTURE AND PERSONALITY 3 cr.
Prerequisites: PC 101, and AN 110 or SO 151
An examination of personality characteristics produced in a given cultural milieu or sub-group. Cross-cultural comparisons and analyses are made with respect to child rearing, male-female role differentiation, bodily movements, suppression, mental disturbance, and religious expression.

AN 371 CULTURAL AREA STUDIES 3 cr.
Prerequisite: AN 110 or 211.
Analysis of prehistoric, historic, and contemporary aspects of ethnological studies in a culture area; social organization, linguistic ties, cultural ecology, folklore, mythology, artistic expressions of peoples, and their world view examined. Course may be repeated UNDER DIFFERENT LETTER DESIGNATIONS according to selection of culture areas by instructors responsible for the course.

THE FOLLOWING CULTURE AREAS ARE AVAILABLE INITIALLY:

AN 371A CULTURAL AREA STUDIES: NORTHERN EUROPE
AN 371B CULTURAL AREA STUDIES: SOUTHEAST ASIA
AN 371C CULTURAL AREA STUDIES: CHINA AND JAPAN
AN 371D CULTURAL AREA STUDIES: CARIBBEAN

AN 401 SOCIAL AND CULTURAL CHANGE 3 cr.
Prerequisites: AN 110 or SO 151 and Junior Standing or permission of instructor.
For description of course, see SO 401.

AN 480 ANTHROPOLOGY SEMINAR 1-3 cr.
A seminar for advanced students devoting itself to an intensive analysis of specialized issues within the discipline.

AN 481 SPECIAL TOPICS IN ANTHROPOLOGY 3 cr.
Focuses on specialized topics in anthropology which are not included among regular course offerings.

AN 482 INDEPENDENT STUDY 1-3 cr.
Opportunity for students to engage in in-depth analysis of some topic through consultation with a faculty member. Some kind of semester project is ordinarily expected.

AN 483 READINGS IN ANTHROPOLOGY 1-3 cr.
Readings on special topics in anthropology, with presentations and class discussions. Instructor guides selection of readings and presentations.

The School of Business

ELWOOD B. SHEEDER, DEAN

The establishment of a School of Business was authorized by the Board of Trustees of Indiana University of Pennsylvania in May 1966, and it was indicated that the School should consist of several departments. At present, these are the Business and Distributive Education Department and the Business Management Department.

Degree programs offered by the School of Business are the Bachelor of Science in Education with a major in Business Education or with a major in Distributive Education and the Bachelor of Science in Business Management.

Business Education has been one of Indiana's areas of specialization for some 50 years. The program in Distributive Education prepares Teacher-Coordinators for schools offering programs in marketing, distribution and cooperative work experience. These two degree areas are designed to prepare teachers for comprehensive high schools, area vocational-technical schools, and community colleges. The Business Management program has as its primary purpose the preparation of students for careers in business and industry.

DEPARTMENTS

Business and Distributive Education

Those enrolled in this Department have a choice of the following areas of concentration; Accounting, Data Processing, Secretarial (all include certification in Typewriting), and Distributive Education. Students are encouraged to select more than one area of concentration, as additional hours beyond the minimum requirements enrich the student's preparation for teaching. Student teaching is carried out under local supervision at the various centers. In addition, coordinators from the University observe and counsel the student teachers.

Business Management

The training offered by the Business Management Department is intended to provide a broad liberal background in the behavioral sciences; to give a keen perception of the social-economic world in which we live and work; to provide the foundation of general professional education for personally fruitful and socially useful careers in the varied fields of business and other types of institutions; and to furnish the opportunity to obtain the specialized knowledge and skills essential to future occupational growth and advancement for students preparing for responsible technical, supervisory, and executive positions. Students may pursue work according to their particular interests and aptitudes.

DEGREE REQUIREMENTS

All degree candidates in the School of Business must fulfill the University's 52-credit General Education requirement,

and candidates for degrees in Education must fulfill the 28-credit requirement in professional Education courses, needed for certification. Specific courses to fulfill the General Education requirement and meet special degree requirements within the School of Business are identified under the Departments involved.

In addition, degree requirements for ALL Business students include a general requirement of 18 credits in Business courses as follows:

General Requirement

BU 221	Introduction to Accounting	3 cr.
BU 235	Business Law I	3 cr.
BU 251	Intermediate Accounting	3 cr.
BU 321	Business Communication	3 cr.
BU 336	Business Law II	3 cr.
BU 339	Business Data Processing	3 cr.

COURSE DESCRIPTIONS

The courses listed below (prefix BU) are available to students in both the Business and Distributive Education Department and the Business Management Department. Students in the School of Business should refer to the specific requirements for their respective degrees (BE — Business Education, DE — Distributive Education, and BM — Business Management), shown by the department.

BU 101 BUSINESS ORGANIZATION AND MANAGEMENT 3 cr.
This introductory course is an overview of the principles, practices, and methods common to most business firms in a private enterprise system.

BU 131 PRINCIPLES OF TYPEWRITING 2 cr.
Emphasis on development of correct techniques in typewriting, introduction to basic styles of business letters, simple tabulations and simple manuscripts; specific standards of speed and accuracy are required. Credit may be given by examination.

BU 132 INTERMEDIATE TYPEWRITING 2 cr.
Prerequisite: 2.0 QPA in BU 131 or "credit by examination."
Emphasis on further development of speed, accuracy, and production ability; includes business letters with special features, business reports, business forms, rough drafts, manuscripts, liquid and stencil duplication.

BU 221 INTRODUCTION TO ACCOUNTING 3 cr.
Introduces student to the keeping of records for service and professional establishments, as well as mercantile enterprises involving the single proprietor.

BU 233 MARKETING 3 cr.
Study of business activities necessary to planning, pricing, promoting, and placing of goods and services for use by household consumers and industrial users.

BU 235 BUSINESS LAW I 3 cr.
Deals with the nature of law and the agencies and procedures for its enforcement, contracts, agency employment, negotiable instruments, property and bailments.

BU 251 INTERMEDIATE ACCOUNTING 3 cr.
Prerequisite: at least a 2.0 QPA in BU 221.
Special consideration given to accrued and deferred items; the significance and handling of valuation accounts and interpretation of the effect of all types of transactions on the operation of a business.

BU 261 SHORTHAND THEORY 3 cr.
An introductory course in the basic principles of Gregg Shorthand, Diamond Jubilee.

BU 262 SHORTHAND DICTATION 3 cr.
Prerequisite: BU 261.
Major objectives are to review and strengthen student's knowledge of principles of Gregg Shorthand, Diamond Jubilee, to build shorthand-writing speed, and to build transcription skill.

BU 271 ADVANCED TYPEWRITING 2 cr.
Prerequisites. At least a 2.0 QPA in BU 131 and 132.
Continuation of speed and accuracy development and production ability, advanced work in letter forms, legal documents, statistical reports, tables, and manuscripts. Instruction on VariTyper included.

BU 321 BUSINESS COMMUNICATIONS 3 cr.
Develops student's ability to express facts and ideas clearly and effectively in writing. Basic principles of organizing, developing, and presenting material in letters and reports are presented with emphasis on practical application of principles to the solution of management problems through written and oral communications.

BU 332 RETAIL MANAGEMENT 3 cr.
Prerequisite: DE 331 or BU 233 or BU 333.
Study of structure and changing environment of retailing; special emphasis on merchandise management, organization, sales promotions, services and control.

BU 333 PRINCIPLES OF SELLING 3 cr.
Covers field of selling, preparing to sell, the selling process and an introduction to sales management. Sales demonstrations incorporating audio-visual aides are a part of course.

BU 335 MACHINE MATHEMATICS 3 cr.
Prerequisite: BE 111, Foundations of Business Mathematics or permission of instructor.
Fundamental mathematical processes utilized in business are applied in realistic business situations through use of office machines including a ten-key and full-keyboard adding-listing machines and electronic calculators.

BU 336 BUSINESS LAW II 3 cr.
Prerequisite: BU 235.
The basic aim is same as that stated for Business Law I. Attention given to kinds of business organizations, sales, insurance, surety and guaranty, leases and mortgages, trust and estates, bankruptcy, business torts and crimes.

BU 339 BUSINESS DATA PROCESSING 3 cr
Students are familiarized with development and use of Business Data Processing Systems. Data processing methods and equipment, computer programming, and interpretation of business information are covered.

BU 352 CORPORATE ACCOUNTING 3 cr.
Prerequisite: BU 251.
Continued study of financial principles and practices of accounting with emphasis on characteristics, records, and financial reports of corporations.

BU 353 COST ACCOUNTING 3 cr.
Prerequisite: 2.0 QPA in BU 221 and BU 251.
Basic theory and procedures for determining unit cost of production and cost control involving material, labor, and manufacturing expenses in job-order and process cost systems. The costing of joint and by-products.

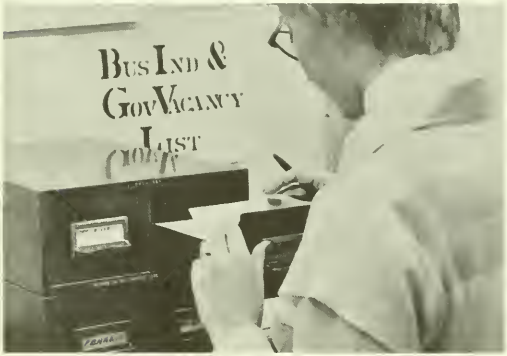
BU 363 TRANSCRIPTION 3 cr
Prerequisite: BU 262.
Develop additional speed in taking dictation, with emphasis on development of transcription skill.

BU 364 OFFICE PRACTICE 3 cr.
Prerequisite: BU 271, Advanced Typewriting.
Advanced study of theory and practice in activities common to the office — records management; handling of mail; bank, telephone, and telegraph services; receiving callers; writing reports; dictating and transcription equipment; bank, financial, and legal transactions; shipping and receiving services; reference books; etc.

BU 439 BUSINESS INFORMATION SYSTEMS 3 cr.
Orientates student to philosophy and concepts of business information systems. Areas of problem definition, information economics, information management, flow charting, truth table testing, and documentation included.

BU 454 FEDERAL TAXES 3 cr.
Prerequisite: BU 352.
The intent is to acquaint students with Federal Income Tax Laws as they affect individuals, single proprietorship, and partnerships.

BU 455 AUDITING 3 cr.
Prerequisite: BU 353.
Study of auditing theory and practical application of auditing standards and procedures to the verification of accounts and financial statements; working papers; and audit reports.



BUSINESS AND DISTRIBUTIVE EDUCATION DEPARTMENT

DENNIS D. TIGER, CHAIRPERSON: BEAUMONT, BETTA, BIANCO, GHESSIE, McCLELLAND, MAHAN, MOREAU, PATTERSON, POLESKY, SHROCK, THOMAS, VARNER, WOOMER.

Degrees offered by the Business and Distributive Education Department are the Bachelor of Science in Education with a Business Education major and the Bachelor of Science in Education with a Distributive Education major.

In addition to the 18 credits in business courses required of all candidates for a degree from the School of Business, a core program of 16 credits is required of all majors in the Business and Distributive Education Department, as follows:

Core Program

Business

BU 101	Business Org. and Management	3 cr.
BU 131	Principles of Typewriting	2 cr.
BU 132	Intermediate Typewriting	2 cr.
BU 333	Principles of Selling	3 cr.
*BU 335	Machine Mathematics	3 cr.

Business Education

*BE 111	Foundations of Business Mathematics	3 cr.

*May be part of the University's General Education requirement.

B. S. IN EDUCATION (BUSINESS EDUCATION MAJOR)

The curriculum in Business Education prepares students for a professional career in teaching office occupations. The Business Education curriculum is designed with three areas of

concentration or fields of specialization. The three fields of concentration are Accounting, Data Processing, and Stenography. Students may pursue the work of the entire curriculum or they may elect to pursue work according to their aptitudes as follows:

1. The Complete Program leads to certification in all of the high school business subjects. Those who possess aptitudes that indicate success in Accounting, Data Processing, and Secretarial work may pursue this complete program if they wish. School administrators believe that the complete program is desirable for breadth of certification when teaching in the public schools of the Commonwealth of Pennsylvania.
2. The Accounting Field includes all courses in the curriculum listed under that heading and meets the requirements for certification in Accounting and Typewriting.
3. The Secretarial Field includes all courses in the curriculum listed under that heading and meets the requirements for certification in Secretarial subjects and Typewriting.
4. The Data Processing Field includes all courses in the curriculum listed under that heading and meets the requirements for certification in Accounting, Data Processing, and Typewriting.

All Business Education majors are required to complete the requirements for certification in at least two of the following areas of certification: 1. Accounting, 2. Data Processing, 3. Marketing, 4. Stenography, and 5. Typewriting.

Students pursuing the Accounting Field or Secretarial Field may elect courses which will afford certification in a third area of certification since the courses listed under these headings in the curriculum only provide for certification in two areas.

In addition to the degree requirements previously outlined for the School of Business and the Business and Distributive Education Department, all majors in Business Education must complete the following:

BU 271	Advanced Typewriting	2 cr.
BE 311	Methods of Teaching Business Courses	3 cr.
BE 312	Evaluative Techniques in Business Courses	3 cr.
*EC 121	Principles of Economics I	3 cr.

*May be part of the University's General Education requirements.

Practical Business Experience

Before graduation, each student is encouraged to complete the equivalent of 12 months of secretarial practice, accounting practice, data processing, clerical practice, or a combination of these. This experience should be in the field or fields in which the student is contemplating certification and can be acquired during summer vacations and in offices on the campus during the regular school term.

Specialization in the several areas available to the Business Education student is accomplished by taking the courses listed as follows:

Courses Required in the Secretarial Sequence

BU 261	Shorthand Theory	3 cr.
BU 262	Shorthand Dictation	3 cr.
BU 363	Transcription	3 cr.
BU 364	Office Practice	3 cr.

Courses Required in the Accounting Sequence

BU 352	Corporate Accounting	3 cr.
BU 353	Cost Accounting	3 cr.
	or	
BU 454	Federal Taxes	3 cr.

Courses Required in the Data Processing Sequence

BU 340	Business System Technology	3 cr.
BU 439	Business Information Systems	3 cr.
BM 342	Business Problem Application I	3 cr.
BU 352	Corporate Accounting	3 cr.
BU 454	Federal Taxes	3 cr.

Electives

BU 453	Cost Accounting	3 cr.
BU 455	Auditing	3 cr.

COURSE DESCRIPTIONS

BE 111 FOUNDATIONS OF BUSINESS MATHEMATICS 3 cr.
Develops an understanding of numbers and a knowledge of fundamental concepts in arithmetic and algebra in the solution of common and advanced problems encountered in business by the businessman and consumer. Topics illustrating and emphasizing the application of business mathematics include methods used to compute interest, discounts, partial payments, discounting of notes and drafts, depreciation, amortization, sinking fund redemptions, effective rate of interest, and preparation of statistical data.

BE 311 METHODS OF TEACHING BUSINESS COURSES 3 cr.
Prerequisites: EP 302 and completion of at least one major area. Methods of teaching shorthand, typewriting, bookkeeping, office machines, and general business courses are presented. Unit plans, lesson plans, and video-taped microteaching are emphasized.

BE 312 EVALUATIVE TECHNIQUES IN BUSINESS COURSES 3 cr.
Prerequisite: BE 311.
Construction, administration, scoring, treatment and grading of various types of tests; includes analysis of test results, remedial teaching and other evaluation procedures.

BE 433 SUPERVISED WORK EXPERIENCE AND SEMINAR IN OFFICE OCCUPATIONS 6 cr.
Students gain experience in selected office occupations. This cooperative business experience is conducted by competent business and University personnel. There is a weekly evening seminar.

General Electives

BE 371 PERSONAL TYPEWRITING AND DUPLICATING 1 cr.
In this beginning course in typewriting, students learn how to touch type and use the spirit duplicator and mimeograph machines. (Open to all students EXCEPT BE and DE majors and Office Management majors in the Business Management Department.)

B. S. IN EDUCATION (DISTRIBUTIVE EDUCATION MAJOR)

The curriculum in Distributive Education is designed to prepare students for a professional career teaching the distributive occupations. Students following this program will be graduated as Teacher-Coordinators of Distributive Education and will be also certified to teach certain courses in Business Education.

Teaching in the field of Distributive Education combines the personal satisfaction of teaching with the enjoyment of public relations work in the distributive area of business – retailing, wholesaling, and service enterprises. The student who likes the prestige of teaching, along with the plus values of working with business leaders and young people, will find this a challenging and rewarding career. Distributive Education presents a promising future for persons in the teaching profession. With the recognition of the importance of distribution to our national economy, this vocational field of teaching is expanding rapidly.

In addition to the degree requirements previously outlined for the School of Business and the Business and Distributive Education Department, all Distributive Education majors must complete the following:

BU 233	Marketing	3 cr.
BU 332	Retail Management	3 cr.
DE 310	Principles of Distributive Education	3 cr.
DE 313	Methods of Teaching Distributive Education	3 cr.
DE 331	Modern Merchandising	3 cr.
DE 434	Work Experience and Seminar in Distributive Education	6 cr.
*EC 121	Principles of Economics I	3 cr.

*May be part of the University's General Education requirements.

COURSE DESCRIPTIONS

DE 310 PRINCIPLES OF DISTRIBUTIVE EDUCATION 3 cr.
To acquaint prospective teacher-coordinators with objectives of vocational distributive education, including state plan and curriculum. To understand problems in organizing, administrating, and supervising a complete cooperative program.

DE 313 METHODS OF TEACHING COURSES IN DISTRIBUTIVE EDUCATION 3 cr.
Prerequisite: DE 310.
To acquaint students with basic principles of group and individual instruction in various subject matter areas, as well as methods of presentation. Students prepare unit plans, lesson plans, demonstrations and evaluations.

DE 331 MODERN MERCHANDISING 3 cr.
Techniques for planning and controlling inventory, analyzing sales, working with modern systems for handling cash, uses of color, line and design. Practice in preparing merchandise display units.

DE 434 SUPERVISED WORK EXPERIENCE AND SEMINAR IN DISTRIBUTIVE EDUCATION 6 cr.
Prerequisite: BU 333.
Students gain experience in selected distributive occupations. This cooperative business experience is conducted by competent business and University personnel. There is a weekly evening seminar.

BUSINESS MANAGEMENT DEPARTMENT

DONALD J. ROBBINS, CHAIRPERSON: BREYER, BURNER, CAWLEY, COOPER, FLETCHER, LINDH, MAWHINNEY, McAFOOSE, McCAFFREY, McCLURE, PILLION, PLIVELIC, REIFEL, SHILDT, SPENCER, STEVENSON, STROCK, WEIERS

This Department offers those who seek a career in the world of business or industry an opportunity to pursue their interests in any of six areas of specialization: Accounting, Systems Analyst, Finance, Marketing, Personnel Management, or General Business. The degree offered by the Business Management Department is the Bachelor of Science in Business Management. The curriculum is generally similar for all during the first two years. The choice of an area of specialization is necessary prior to the start of the student's junior year.

The Accounting area provides the training necessary for a person to enter the field of public accounting, accounting in business or industry, or governmental accounting.

The Finance area provides specialized training for those desiring positions in banking, brokerage, or insurance.

The Marketing area provides training for those interested in advertising, marketing research, sales management, retailing and the marketing service departments of wholesalers and manufacturers.

The Personnel Management program is designed to prepare students for eventual positions in personnel and related management areas.

The Systems Analyst area provides training in business computer technology and in the designing and implementation of management information systems.

The General Business area provides an opportunity for students to pursue training in two or more of the previous areas of specialization, but not to the extent permitted a student concentrating in only one of these areas. It also permits greater flexibility in obtaining minors from other departments.

Each area provides for a variety of business, economics, or business-related courses, designed to enrich the student's understanding of the world of modern business.

The Department requires that two-thirds of a student's electives be taken in Business or business-related courses.

In addition to the 18 credits in Business courses required of all candidates for a degree from the School of Business, a core program of 25-26 credits is required of all Business Management majors, as follows:

Core Program

Business		
BU 233	Marketing	3 cr.
Business Management		
BM 201	Personnel Management	3 cr.
BM 215	Business Statistics	3 cr.
Other		
*MA 011	Elementary Functions	3 cr.
	and	

*MA 013	Calculus I for the Natural and Social Sciences	4 cr.
	or	
*MA 013-015	Calculus I and II for the Natural and Social Sciences	4 cr. each
*MA 362	Probability and Statistics	3 cr.
EC 121*-122	Principles of Economics I and II	6 cr.

*May be part of the University's General Education requirement.

Courses required for the specific areas of specialization follow.

Accounting Sequence

In addition to the requirements previously outlined, requirements for specialization in Accounting are 12 more credits in Business, 9 more credits in Business Management, and 6 more credits in Economics, as follows:

Business		
BU 352	Corporate Accounting	3 cr.
BU 353	Cost Accounting	3 cr.
BU 454	Federal Taxes	3 cr.
BU 455	Auditing	3 cr.
Business Management		
BM 241	Finance	3 cr.
BM 451	Advanced Principles of Accounting	3 cr.
BM 456	Advanced Cost Accounting	3 cr.
Economics		
EC 325	Monetary Economics I	3 cr.
EC 330	Labor Economics	3 cr.

This program leaves 12 credits for electives.

Finance Sequence

In addition to the requirements previously outlined, requirements for specialization in Finance are 6 more credits in Business, 24 more credits in Business Management and 6 more credits in Economics, as follows:

Business		
BU 352	Corporate Accounting	3 cr.
BU 454	Federal Taxes	3 cr.
Business Management		
BM 241	Finance	3 cr.
BM 380	Principles of Invest.	3 cr.
BM 381	Insurance I	3 cr.
BM 382	Principles of Real Estate	3 cr.
BM 383	Insurance II	3 cr.
BM 385	Securities & Commodities Markets	3 cr.
BM 481	Investment Analysis	3 cr.
BM 485	Financial Inst. and Markets	3 cr.
Economics		
EC 325	Monetary Economics I	3 cr.
EC 330	Labor Economics	3 cr.

This program leaves 3 credits for electives.

Marketing Sequence

In addition to the requirements previously outlined, requirements for specialization in Marketing are 6 more credits in Business, 21 more credits in Business Management and 6 more credits in Economics, as follows:

Business		
BU 332	Retail Management	3 cr.

BU 352	Corporate Accounting	3 cr.
Business Management		
BM 241	Finance	3 cr.
BM 331	Consumer Behavior	3 cr.
BM 332	Marketing Management	3 cr.
BM 433	International Marketing	3 cr.
BM 434	Advertising	3 cr.
BM 435	Seminar — Cur. Market Problems	3 cr.
BM 438	Marketing Research	3 cr.
Economics		
EC 325	Monetary Economics I	3 cr.
EC 330	Labor Economics	3 cr.

This program leaves 6 credits for electives.

Personnel Management Sequence

In addition to the requirements previously outlined, requirements for specialization in Personnel Management are 6 more credits in Business, 9 more credits in Business Management, 6 more credits in Economics, 3 credits in Sociology, and 3 credits in Psychology, as follows:

Business		
BU 454	Federal Taxes	3 cr.
Business Management		
BM 301	Training Management	3 cr.
BM 381	Insurance I	3 cr.
BM 383	Insurance II	3 cr.
BM 401	Case Studies in Personnel Management	3 cr.
BM 480	Practices and Processes of Collective Bargaining	3 cr.
Economics		
EC 325	Monetary Economics I	3 cr.
EC 330	Labor Economics	3 cr.
Psychology		
PC 400	Industrial Psychology	3 cr.

This program leaves 9 credits for electives.

Systems Analyst Sequence

In addition to the requirements previously outlined, requirements for specialization as a Systems Analyst are 6 more credits in Business, 24 more credits in Business Management, and 3 credits in Computer Science, as follows:

Business		
BU 352	Corporate Accounting	3 cr.
BU 439	Business Information Systems	3 cr.
Business Management		
BM 241	Finance	3 cr.
BM 340	Business Systems Technology	3 cr.
BM 342	Bus. Problems Appl I	3 cr.
BM 441	Bus Prob Program	3 cr.
BM 442	Bus Prob Appl II	3 cr.
BM 443	Bus Systems Analysis I	3 cr.
BM 444	Bus Systems Analysis II	3 cr.
BM 445	Quant Methods — Operat Res	3 cr.
Computer Science		
CO 110	Introduction to Computer Science	3 cr.

This program leaves 6 credits for electives.

General Business Specialization

In addition to the requirements previously outlined, requirements for specialization in General Business are 6 more credits in Business, 3 more credits in Business Management, and 6 more credits in Economics, as follows:

Business		
BU 352	Corporate Accounting	3 cr.
BU 454	Federal Taxes	3 cr.
Business Management		
BM 241	Finance	3 cr.
Economics		
EC 325	Monetary Economics I	3 cr.
EC 330	Labor Economics	3 cr.

This program leaves 24 credits for electives.

COURSE DESCRIPTIONS

BM 201 PERSONNEL MANAGEMENT 3 cr
Introduces and stresses basic policies and procedures required in management of personnel, with emphasis on procuring, developing, maintaining, and utilizing employees for maximum efficiency.

BM 215 BUSINESS STATISTICS 3 cr.
Prerequisites: MA 362.
Objective is application of statistical methods, which are used in guiding business decisions; emphasis is on classical decision theory and Bayesian decision theory.

BM 241 FINANCE 3 cr.
Study of methods of securing and managing funds on short, intermediate, and long-term bases; the financial analysis, planning, and control of a corporation.

BM 301 TRAINING MANAGEMENT 3 cr.
Prerequisite: BM 201.
Principles, problems and procedures in planning, organizing, directing, and controlling training at all echelons of a business enterprise.

BM 331 CONSUMER BEHAVIOR 3 cr.
Prerequisites: BU 233, PC 201.
Survey of noteworthy contributions of behavioral sciences and research of consumer purchasing and decision-making process, with particular attention to formal and informal influence patterns.

BM 332 MARKETING MANAGEMENT 3 cr.
Prerequisites: BU 233, BM 331.
Analysis of marketing and operational problems and policies involved in planning, organizing, coordinating, and controlling a business from a total marketing program.

BM 340 BUSINESS SYSTEMS TECHNOLOGY 3 cr.
Prerequisites: BU 339, 439; CO 300.
Reviews computer technology and its influence on the organization and processing of data files, along with the input, output, processing communications and storage devices.

BM 342 BUSINESS PROBLEM APPLICATION I 3 cr.
Prerequisites: BU 339, 439.
System design and programming of applications related to different business areas utilizing card, taped, and disk files.

BM 380 PRINCIPLES OF INVESTMENTS 3 cr.
Prerequisite: BM 241.
Analysis of various types of securities and other forms of investment possibilities and a study of sound investment policies from a corporate viewpoint. Factors influencing the general movement of security prices and the return from investments are considered.

BM 381 INSURANCE I 3 cr.
Comprehensive study of that insurance which provides protection against the economic loss caused by termination of earning

capacity. Analyzes benefits, underwriting, ratemaking, and legal doctrines.

BM 382 PRINCIPLES OF REAL ESTATE 3 cr.
Study of the regulations, legal aspects and professional ethics of the real estate business, including the area of financing, advertising, property valuation and appraisal and selling.

BM 383 INSURANCE II 3 cr.
Study of the hazards of underlying, the principles involved in, and the protection provided by property and liability insurance, including multiple line and "all risks" insurance, and corporate suretyship.

BM 385 SECURITIES AND COMMODITIES MARKETS 3 cr.
Prerequisite: BM 241.
Study of the structure of security and commodity markets; the nature of speculative transactions and methods of trading; analysis of pricing; and the objectives of security and commodity market regulation.

BM 401 CASE STUDIES IN PERSONNEL MANAGEMENT 3 cr.
Prerequisite: BM 201.
Actual and realistic case studies illustrating the principles, practices, and procedures involved in planning, organizing, and controlling the personal aspect of supervising employees.

BM 433 INTERNATIONAL MARKETING 3 cr.
Prerequisites: BU 233, BM 331.
International marketing is analyzed, with consideration given to the significance of government regulation; organization structures of export and import enterprises; and credit policies.

BM 434 ADVERTISING 3 cr.
Prerequisite: BU 233.
An introduction to the principles, practices, and creations of advertising. The use of various media, legal, economic, social and ethical aspects of advertising are also considered.

BM 435 SEMINAR IN CURRENT MARKETING PROBLEMS 3 cr.
Prerequisites: BM 332, 438, 434.
A terminal course designed for majors in Marketing; considers current literature in the field, case problems pertaining to the total marketing effort, and actual problems of local companies.

BM 438 MARKETING RESEARCH 3 cr.
Prerequisite: BU 233.
The nature, methods, analysis, and application of present-day marketing research techniques utilized in the solution of practical marketing problems, studied through the use of case material and outside research.

BM 441 BUSINESS PROBLEM PROGRAMMING 3 cr.
Prerequisites: BU 339, 340, 439; BM 342.
The study of Business-oriented high-level languages of Cobol, and RPG, and solving problems in accounting, marketing, statistics, and finance.

BM 442 BUSINESS PROBLEM APPLICATION II 3 cr.
Prerequisites: BU 439; BM 340, 342.
Business-oriented information system involving magnetic tape and indexed sequential disk files; creation, maintenance, and report-writing functions are considered.

BM 443 BUSINESS SYSTEMS ANALYSIS I 3 cr.
Prerequisites: BU 339, 439, BM 340, 342.
Study of the techniques used in Systems Analysis, involving systems definition, feasibility, quantitative, and evaluative techniques of business.

BM 444 BUSINESS SYSTEMS ANALYSIS II 3 cr.
Prerequisites: BM 441, 442, 443.
Study of business sub-systems, such as production, inventory, and marketing, with the requirement of a documented study of a sub-system of an outside business.

BM 445 QUANTITATIVE METHODS — OPERATING RESEARCH 3 cr.
Prerequisites: BM 441, 442, 443.
Develops the computer programs necessary for business decision-making techniques; intensive analysis of the decision-making process: diagnosing problems; evaluation of alternative solutions, projection of results and the choice of alternatives.

BM 451 ADVANCED PRINCIPLES OF ACCOUNTING 3 cr.
Prerequisite: BU 352.
Study of accounting problems of a specialized nature, including the application of funds statement, consignments, installment sales, receivership accounts, agency and branch accounting and corporate combinations.

BM 456 ADVANCED COST ACCOUNTING 3 cr.
Prerequisite: BU 353.
Study of the theory, preparation, and use of budgets, the analysis of cost variances, direct costing, and extensive analysis of various cost-control and profit-planning programs.

BM 480 THE PRACTICES AND PROCESSES OF COLLECTIVE BARGAINING 3 cr.
The role, function, and authority of negotiation committees, techniques of negotiation, the negotiations agreement, the mediation process and the arbitration process will be analyzed through mainly a case study approach.

BM 481 INVESTMENT ANALYSIS 3 cr.
Prerequisites: BU 352, BM 241, 380.
Integrates the work of the various courses in the finance areas and familiarizes the student with the tools and techniques of research in the different areas of investments.

BM 485 FINANCIAL INSTITUTIONS AND MARKETS 3 cr.
Prerequisites: EC 325, BM 380.
Review of entire structure of financial institutions, money and capital markets, of which the business enterprise is both a supply and demand factor, and structure and dynamics of interest-rate movements.

BM 490 DECISION MAKING IN BUSINESS 3 cr.
Prerequisite: Junior status.
A case approach to the analytical techniques and concepts necessary in making business decisions concerning marketing, costs, pricing, profits, competition, production, and capital management.

BM 495 PERSONNEL MANAGEMENT INTERNSHIP 3-6 cr.
Practical experience within a personnel office.

BM 496 MARKETING INTERNSHIP 3-6 cr.
Practical experience in the marketing field.

BM 497 ACCOUNTING INTERNSHIP 6 cr.
Practical experience with a public accounting firm.

Business Electives

66-2/3rds percent of your undesignated electives must be from the following courses:

BU 101 BUSINESS ORGANIZATION AND MANAGEMENT 3 cr.
(Restricted to Freshmen and Sophomores)

PC 400 INDUSTRIAL PSYCHOLOGY 3 cr.

SO 340 INDUSTRIAL SOCIOLOGY 3 cr.

Any 3 credit BU or BM course not requiring a prerequisite or for which you have had the prerequisite. 3 cr. each

Any non-required Economics course for which you have fulfilled the prerequisite requirements. 3 cr. each

Any business related course with permission of Business Management Dept. Chairperson.

Non-Business Electives:

Any course listed above in the Social Science and Humanities elective groups. 3 cr. each

Other non-business electives are available with the approval of the Dean, School of Business or the department chairman.

INDIANA UNIVERSITY
CENTER

INDIANA UNIVERSIT
OF PENNSYLVANIA
Punxsutawney Campu

The School of Continuing Education

GEORGE W. BILICIC, DEAN

For a variety of reasons increasing numbers of American adults will enroll in continuing education programs to pursue their educational objectives during the rapidly changing final quarter of the Twentieth Century. As a response to this need for recurrent education, IUP has established the School of Continuing and Non-resident Education.

This School provides opportunities for adults to participate in short courses and community service programs offered through the Community-University Study Series each spring, summer and fall. It also offers tutoring, testing, and other academic and advisement services to meet the needs of adult learners. Assistance in career planning is also available.

Currently, criminology courses for credit are offered at a number of locations in Western Pennsylvania through the Criminology Extension Program, in cooperation with other institutions of higher education. Additional extension programs in other subject areas (business, safety science, social sciences, fine arts, etc.) are being developed as the School expands its offerings.

The School encompasses a variety of centers to meet specific needs. The **Crime Study Center** develops community-oriented activities with a major emphasis on pre-professional and in-service criminal justice training. In addition, the Center is a vehicle for grant development, grant administration, management consultation, research, and information exchange. Special conferences and seminars, such as the Delinquency Control Institute, are also designed by the Center on a state, regional, and national scale. **The Adult Education Center** provides in-service educational opportunities and instructional resources for adult and continuing educators and staff development programs for personnel who work with senior citizens in Western Pennsylvania. The Adult Education Center also cooperates with school districts in promoting Adult Basic Education (ABE) and High School Equivalency (GED) Programs. **The Center for Foreign Study** presents inter-disciplinary learning opportunities, foreign study tours, often through consortia arrangements with other institutions of higher education. **The Institute for Local Government and Community Assistance** serves local elected and appointed officials and agency personnel through conferences and seminars, consulting and technical assistance services, and a newsletter and fact sheets which are vehicles for information dissemination.

The School of Continuing Education coordinates and administers continuing education conferences, institutes, and workshops for the University to respond to public needs. On the basis of needs assessment and community interest, the School designs continuing education and community service programs for the general public and for special publics, such as women, senior citizens, professional people, labor union members and

leaders, businessmen, local governmental and state officials, volunteers, paraprofessionals, and other distinct audiences. An example of this is a developing program, the Continuing Education (Extension) Program for Business, Industry, and Labor. The School has a deep interest in providing access to IUP credit courses (through the Credit Classes Program and Extension Programs) to mature adults beyond the normal college age of 18–22 years who wish to continue their education by enrolling in regular credit courses offered at the Main Campus, the Branch Campuses, and Off-Campus locations. The School generates proposal-writing activities for the support of adult or continuing education, community service, and community development.

The School of Continuing and Non-resident Education offers programs at the Main Campus in Indiana, at the Branch Campuses in Punxsutawney and Kittanning, and in other communities in the IUP service area and, thereby, contributes to extension of the resources of the University to the people of the State. Both credit and non-credit programs are available. The Continuing Education Unit (CEU) is awarded for credit-free programs that meet established criteria. The School of Continuing and Non-resident Education does not have a permanent faculty of its own. The School attracts resource people as needed from the community, the University, and other educational institutions.

Programs in the School of Continuing Education:

Community-University Studies Program
Academic Services and Testing Center
Center for Foreign Study
Foreign Student Advisory
Criminology Extension Program
Continuing Education Conferences and Institutes
Credit Classes Program
General Extension Program
CRIME Study Center
Adult Education Center
Institute for Local Government and Community Assistance
Older Americans Program/Aging Projects
Programs for Business, Industry and Labor
New and Developing Programs

THE BRANCH CAMPUSES

ROBERT H. DOERR, DIRECTOR
ARMSTRONG BRANCH CAMPUS

NORMAN T. STORM, ACTING DIRECTOR
PUNXSUTAWNEY BRANCH CAMPUS

IUP operates two branch campuses, one in Punxsutawney, 28 miles north of Indiana Campus, and one in Kittanning, 28 miles west of the Indiana Campus. The first branch campus was established in September, 1962, in Punxsutawney. The following year the Armstrong County Campus in Kittanning was opened. Over 200 students are enrolled at the Punxsutawney Campus and 550 students at Armstrong County Campus.

Both campuses have University faculty members who teach full time at the branch campuses. To meet additional curriculum needs, other faculty from the main campus travel

to the branch campuses. The branches provide one to two full years of college work which, if satisfactory, is transferable to the main campus of IUP or to other accredited colleges.

Control of the branch campuses is directly vested with the Indiana University Administration and Board of Trustees. Advisory Boards from the respective areas identify local needs. Both branch campuses carry full accreditation as integral parts of the undergraduate programs of IUP. This means that courses offered at the branch campuses are of the same quality as those offered at the main campus.

Programs of Study

The branch campuses of IUP offer basic general education courses in most majors in the various undergraduate schools of the University. Thus students may schedule a full program for the freshman and sophomore years by pursuing work that will fulfill these general education requirements. In addition to these required courses a number of electives are offered in many fields.

In some majors, the student will be able to complete only one year's work at a branch campus instead of the two years which would qualify him for junior status; hence it will be necessary for him to continue his studies at the main campus after the first year. This is true of students majoring in highly specialized fields. In any event, no student accepted at either of the branch campuses is eligible for transfer to the main campus at Indiana until he has completed two semesters and has achieved the necessary grade point average.

Students find many advantages in remaining at the branch campuses for two years providing they can obtain a full program of University credit. A smaller student body and a closer relationship among faculty members, administration, and students at the branch campuses are very beneficial to students.

Faculty advisors and administrators at the branch campuses are available to advise students on their instructional program and the proper time for continuing at the Indiana Campus whether it be after two, three or four semesters.

Criminology Associate Degree Program

This special two-year program in Criminology is offered only at the branch campuses and is not offered on the main campus of IUP. When a student is accepted for admission into this two-year program, it is understood that he will remain in the particular program at the branch campus until it is completed. It is further understood that the student in this special two-year program may not transfer into any other major offered by the University until completion of this program. At that time, the student may apply for admission into a four-year baccalaureate degree program according to the availability of openings on the main campus of IUP. Admission is not guaranteed. If accepted, however, the credits earned in the two-year program will apply toward the four-year degree program in Criminology.

Admission

Any prospective student who wishes to attend either of the branch campuses instead of the Indiana Campus may apply for admission by requesting an application from the Admissions

Office, or from the Director of either branch campus. The same standards and requirements used for admission at the main campus are applied at both University branch campuses.

Housing

Both branch campuses have privately-owned residence halls for students living beyond commuting distance. Students are free to choose their housing from all available sources which include the privately owned residence halls and private homes or apartments in the community. At the Punxsutawney Campus, the Punxsutawney Area College Trust maintains two residence halls: Pact Hall (women) and Trust Hall (men). There are two privately-owned residence halls at the Armstrong County Campus as well as rooms and apartments in private homes in the community adjacent to the branch campus. A list of rooms and apartments is available in each campus directors office.

Both branch campuses have residence halls with integral laundry facilities.

Food Service

Each branch campus has its own dining hall within the residence hall. Meals are served seven days a week during the time when the University is in session. Residence hall students as well as students living in private homes and apartments may make arrangements to take meals in the dining halls. The dining service is operated by the ARA Slater Food Service.

Libraries

The Armstrong County Campus library, an integral part of Academic Hall, has more than 18,000 volumes. In addition, the library provides microfilm, 150 periodicals, and language and shorthand tapes and records. All books and magazines are displayed on open stacks. The library which seats about 100 students is open 65 hours per week.

The Punxsutawney library contains more than 12,000 volumes as well as 100 periodicals, recordings of music, poetry and dramas. There are 59 titles available on microfilm in addition to *The New York Times,* 1965-1970. The Punxsutawney library is open 56 hours a week.

The University employs professional librarians for both branch campuses. The libraries at the branch campuses are especially practical since the volumes are geared for the specific curricula. If volumes and other materials are not immediately available, the general holdings of the Rhodes R. Stabley Library on the Indiana campus are available to the students through inter-library loan.

Extra-Curricular Activities — Armstrong County Campus

A large part of the extra-curricular activities at the Armstrong County Campus takes place in the Student Union which adjoins the two dormitories and the Academic building. The Union is a two story building, the first floor of which is equipped for such activities as pool, ping pong, and dancing. The second floor is furnished as a lounge with television and a piano. Movies are scheduled bi-weekly and dances are scheduled on alternate Fridays.

Each Wednesday from 7:00 to 10:00 P.M. the students may participate at the local YMCA in a Gym-Swim sponsored by the branch campus and supervised by college faculty. The Gym-Swim physical activity includes swimming, gymnastics, volleyball, and basketball.

Each year two semi-formal dances for students and faculty are held, one during the Christmas season and the other in the Spring. A fall outing at the University Lodge on the outskirts of Indiana is supervised by faculty members. All three functions are organized and sponsored by student government.

The students of the Armstrong County Campus are encouraged to attend the University Artists-Lecture Series on the Indiana campus. Bus transportation is provided for those students who wish to attend these monthly activities.

Many of the students are active in Women's Judicial Board, Student PSEA, Big Brother and Big Sister, Newman Club, and other branch campus activities.

The churches, social and civic organizations of the area invite and encourage the students to take an active part in their projects and activities.

Extra Curricular Activities – Punxsutawney Campus

The newly completed Student Union building is the scene of a major portion of extra-curricular activities at the Punxsutawney Campus. The new Union provides facilities for dances, pool, ping-pong, movies and also has a lounge area equipped with color television and piano. This building is expected to re-activate the drama club since it provides more suitable facilities for plays and musicals.

Outstanding functions of the school year are the Christmas and Spring semi-formal dinner dances and an informal party at the University Lodge held in conjunction with the Kittanning Campus.

A campus van facilitates the transporting of small groups of students for such events as intramural athletic activities to both Main Campus and the Kittanning Campus. Bus transportation is provided for larger groups of students wishing to attend artist series performances, athletic events and other Main Campus activities.

Various clubs are active on the Punxsutawney Campus, especially the Circle K which is the college division of Kiwanis International. Circle K participates in many worthwhile community service projects. The elected Student Government supervises and arranges for all extra-curricular activities on the campus.

The churches of the area invite and encourage students to take an active part in their functions and the Coalition for Christian Outreach sponsors a person to spend time with the students giving spiritual help and guidance to those desiring it.

Rules and Regulations Concerning Student Behavior

Students at the Branch Campuses are subject to the same rules and regulations as students on the main campus.

Fees

Branch Campus students pay the same basic fees as main campus students.

CONTINUING EDUCATION

The School of Continuing Education plays a significant role in programming criminology extension classes, community-university studies classes (non-credit), and academic workshops and institutes in the Punxsutawney and Kittanning Areas. While meeting the needs of the traditional students in the Criminology Extension Program; the School is also responsive to the needs of the local community through credit and non-credit activities.

A representative of the School maintains office hours at both branch campuses.

COURSE OFFERINGS AT THE BRANCH CAMPUSES

Anthropology-Sociology Department
- AN 110 Intro to Anthropology
- SO 151 Principles of Sociology

Art Department
- AR 101 Introduction to Art
- AR 116 Western Art: Renaissance to Baroque

Biology Department
- BI 103 General Biology I
- BI 104 General Biology II

Business Department
- BU 101 Business Organization and Management
- BU 221 Introduction to Accounting
- BU 233 Marketing
- BU 235 Business Law I
- BU 251 Intermediate Accounting

Chemistry and Physics Department
- SC 105 Physical Science I
- SC 106 Physical Science II

Criminology Department
- CR 101 General Administration of Justice
- CR 102 Criminology
- CR 301 Criminal Law I
- CR 302 Criminal Law II
- CR 201 Police Administration I
- CR 202 Police Administration II
- CR 310 Criminal Investigation
- CR 340 Crime Prevention
- CR 350 Techniques of Interviewing
- CR 370 Community Relations
- CR 431 Etiology of Delinquent Behavior
- CR 432 Treatment and Control of Delinquency
- CR 440 Institutional Treatment of the Offender
- CR 445 Non-Institutional Treatment of the Offender
- CR 490 Crime in Modern Society

Economics Department
- EC 101 Basic Economics
- EC 121 Principles of Economics

English Department
- EN 101 English I
- EN 102 English II
- EN 103 Introduction to Theater
- EN 201 English III
- EN 358 Modern American Fiction

Foreign Language Department
- SP 151 Spanish I
- SP 152 Spanish II
- SP 251 Spanish III
- SP 252 Spanish IV
- FR 151 French I
- FR 152 French II
- FR 251 French III
- FR 252 French IV
- GM 151 German

Geography Department
- GE 101 World Geography
- GE 251 Geog of United States and Canada

Health and Physical Education Department
- HE 101 Health

History Department
- HI 101 Hist of Civilization I
- HI 102 Hist of Civilization II
- HI 104 Hist of U. S. and Pa. II

Home Economics Department
- CS 113 Management and Equipment
- CS 315 Family Finance and Consumer Economics

Mathematics Department
- MA 011 Elementary Functions
- MA 013 Calculus I (Non-Math and Non-Physics Majors)
- MA 101 Foundations of Math
- MA 111 Calculus I (Math Majors)
- MA 160 Math for Elementary Teaching I
- MA 250 Math for Elementary Teaching II
- MA 362 Probability and Statistics

Military Science Department
- MS 101 World Military History (Fresh)
- MS 102 American Military History (Fresh)
- MS 203 Fundamentals of Tactical Operations With Applied Terrain Analysis & Military Topography (Soph)
- MS 204 National Security and Concept of Force (Soph)

Music Department
- MU 101 Introduction to Music

Philosophy Department
- PH 110 World Religions
- PH 120 Intro to Philosophy
- PH 221 Logic I — General Logic
- PH 222 Ethics

Political Science Department
- PS 111 American Politics
- PS 101 World Politics

Psychology Department
- PC 101 General Psychology
- EP 302 Educational Psychology
- PC 354 Developmental Psychology

The School of Education

CHARLES M. KOFOID, DEAN

The departments of the School of Education offer programs leading to the degree of Bachelor of Science in Education, the degree of Master of Education, and the doctoral program leading to the degree of Doctor of Education in Elementary Education. Appropriately, all programs completed in the School of Education lead to certification for public school teaching or supervision in the Commonwealth of Pennsylvania.

SUMMARY OF PROGRAMS OFFERED

Elementary Education	Bachelor of Science in Education Master of Education Doctor of Education
Secondary Education	Bachelor of Science in Education
*English	*Master of Education
Communication	
*Biology	
*Chemistry	
*Earth and Space Science	
General Science	
*Mathematics	
*Physics	
*Physics-Mathematics	
*Comprehensive Social Studies	
French	
German	
Russian	
*Spanish	
Latin	
Counselor Education	Master of Education (for details, see Graduate School Bulletin)
Educational Psychology	Master of Education (for details, see Graduate School Bulletin)
Dental Hygiene	Bachelor of Science in Education
Public School Nursing	Bachelor of Science in Education
Reading Specialist	Master of Education (for details, see Graduate School Bulletin)
Special Education	
Education for Mentally Retarded	Bachelor of Science Master of Education
Rehabilitation Education	Bachelor of Science in Education
Speech Pathology and Audiology	Bachelor of Science in Education Master of Education
Certification Areas	
Undergraduate	
Education for Safe Living — Driver Education	Certificate (for details, see School of Health Services)
Graduate	
Instructional Media Specialist	Certificate (for details, see Graduate School Bulletin)
School Psychologist	Certificate
School Social Worker	Certificate

DEGREE REQUIREMENTS

All degree candidates in the School of Education (except for three special programs) must complete satisfactorily a minimum of 124 credits in three categories: General Education, a

specialized major field, and professional education:

General Education — 52 to 55 credits, described under requirements for Graduation.

Specialized major field — requirements listed under Department offerings.

Professional Education — 29 credits, as follows:

EP 302	Educational Psychology	3 cr.
EP 377	Educ. Tests & Measurements	3 cr.
FE 302	History and Philosophy of American Education	3 cr.
LR301	Audio-Visual Education	3 cr.
Methods Course — (Teaching of _____, see under major department offerings)		3 cr.
One semester student teaching, including professional Practicum and School Law		14 cr.

The three special programs are those leading to the Bachelor of Science in Education in Dental Hygiene, in Public School Nursing, and in Rehabilitation Education. For each program, the degree requirements are listed in the pages following.

SOPHOMORE SCREENING FOR JUNIOR STANDING

School of Education majors are screened at the close of the sophomore year for Junior Standing approval. The student must have earned a minimum of 57 semester hours, achieved a 2.0 cumulative quality point average, successfully completed English I and English II and received speech clearance and department approval.

STUDENT TEACHING

Student teaching is designed to be a learning experience. The student teacher is a student learning to teach under the supervision of a full time cooperating teacher in an off campus center. A University Supervisor is also assigned to work with individual student teachers and cooperating teachers

In general, students have 56 semester hours in general education, 40 semester hours in their subject area of specialization and 14 semester hours of professional education. Students in their first semester of the senior year will not have completed all of this work. Twelve semester hours of student teaching (except in Home Economics Education where it is 8 semester hours) and 2 semester hours of Professional Practicum and School Law provide the student a total of 28 semester hours of professional education at the time of graduation.

PROFESSIONAL PRACTICUM

Professional Practicum, including School Law, is a seminar type course, (except Elementary Education majors schedule this in their department prior to student teaching) scheduled concurrently with student teaching and designed to help student teachers: (a) get an overview and understanding of the total school program, (b) gain knowledge of Pennsylvania School laws governing education, and (c) obtain breadth and depth in understanding the role of classroom teachers in their particular areas of specialization.

THE UNIVERSITY SCHOOL

The University School provides for a program of instruction from kindergarten through sixth grade, thus affording opportunities for professional laboratory experiences and research activities. Professional laboratory experiences are planned and scheduled with the Director of Professional Laboratory Experiences. Research activities are scheduled with the Director of the University School.

THE UNIVERSITY CLINICS

Three clinics under the supervision of the School of Education offer diagnostic testing and remedial service and instruction in the following areas:

PSYCHOLOGICAL CLINIC – diagnosis of academic and behavior problems and personal, vocational, and educational counseling.

READING CLINIC – diagnosis and remedial instruction for reading and spelling disabilities and instruction for the improvement of present skills.

SPEECH AND HEARING CLINIC – diagnosis of speech problems, hearing tests and evaluations, and a regular program of therapy.

Regularly enrolled students at the University may avail themselves of these services without charge.

In addition, a CHILD STUDY CENTER provides psychological testing for any pre-school and school-aged child within the area served by the University.

COMMONWEALTH REQUIREMENTS FOR TEACHER CERTIFICATION

Certification standards for Commonwealth public school teachers are established by the Department of Education and the State Council on Education. The Chairman of the Department in which the student is majoring must verify to the office of the School of Education that all qualifications are met. The Dean of the School is authorized to determine final approval for certification.

Applicants for certification are required by State Law to be of good mental and physical health, not in the habit of using either narcotic drugs in any form or intoxicating beverages to excess.

The Instructional I certificate is issued to the beginning teacher upon graduation from the School of Education. With the addition of 24 semester hours of post-baccalaureate work and successful teaching experience, students may acquire the Instructional II certificate, leading to permanent certification to teach in the Commonwealth of Pennsylvania. Graduates of approved programs in non-teaching areas, such as Dental Hygiene and Public School Nursing, are issued an Educational Specialist I certificate.

GRADUATE PROGRAMS

Information descriptive of M.Ed., Ed.D. and Teaching Internship programs may be found in the current issue of the Graduate School Bulletin.

DENTAL HYGIENE

On November 17, 1950, the Board of Presidents of the State Colleges approved a curriculum for dental hygienists leading to the degree of Bachelor of Science in Education, upon fulfillment of the following:

(1) The satisfactory completion of an accredited 2-year curriculum for the preparation of dental hygienists, approved by the State Dental Council and Examining Board.

(2) Licensing of the student by the proper state authorities.

(3) In addition, the satisfactory completion of 60 credits of professional and general education courses.

EN 101 and 102	English I and II	7 cr.
EN 201	English III	3 cr.
AR 101 MU 101 EN 101	Introduction to Art, Music or Theater	3 cr.
GE 251	Anglo America	3 cr.
HI 101 and 102	History of Civilization I or II	3 cr.
HI 104	History of U. S. and Pa. II	3 cr.
PS 111	American Politics	3 cr.
EC 121	Principles of Economics	3 cr.
SO 151	Principles of Sociology	3 cr.
FE 302	Hist and Phil of American Education	3 cr.
PC 101	General Psychology	3 cr.
EP 302	Educational Psychology	3 cr.
PC 300	The Psychology of Adjustment	3 cr.
LR 301	Audio-Visual Education	3 cr.
Electives		14 credits
Total		60 credits

In each category above, credit may be given for equivalent courses in the two-year dental hygiene curriculum. In such cases, students may increase their electives by the number of semester hours so credited.

Electives may be chosen with the approval of the Dean from any field or curriculum offered at the college in which the student is enrolled.

Dental hygienists who have had less than two years of special training on the basis of which they have been licensed by the State Dental Council and Examining Board will pursue additional courses to fulfill the requirements for the degree.

EDUCATIONAL PSYCHOLOGY DEPARTMENT

BRUCE A. MEADOWCROFT, CHAIRPERSON: ANGELONI, BAHN, CUTLER, DeFABO, HAYS, HELMRICH, LEVENTRY, QUIRK, SHANK, YANUZZI.

COURSE DESCRIPTIONS

Professional Education Courses

EP 302 EDUCATIONAL PSYCHOLOGY 3 cr.
Prerequisite: PC 101.
(Required of all Education majors – It is recommended that this course be taken immediately prior to the student teaching experience.)
Designed to promote better understanding of principles of psychology governing human behavior, with particular emphasis on their relation to learner, learning process, and learning situation in an educational environment.

EP 377 EDUCATIONAL TESTS AND MEASUREMENTS 3 cr.
Prerequisite: PC 101.
(Recommended that this course be taken immediately prior to student teaching experience.)
Designed to acquaint students with major methods and techniques of evaluation used to assess and report growth, development, and academic achievement of individuals in an educational environment. Includes interpretation of standardized test information and basic research techniques.

General Electives or for Instructional II Certification

EP 372 PSYCHOLOGY OF CHILDHOOD EDUCATION 3 cr.
Prerequisite: EP 302.
Emphasizes relationship which physical, social, emotional, and intellectual development have on theory and practice of childhood education.

EP 373 PSYCHOLOGY OF ADOLESCENT EDUCATION 3 cr.
Prerequisite: EP 302.
Study of significant characteristics, behavior, and educational and social problems of adolescents.

EP 376 BEHAVIOR PROBLEMS 3 cr.
Prerequisite: EP 302.
Examination of emotional and social aspects of behavior problems encountered in classroom situations and potential remedial techniques.

EP 378 LEARNING 3 cr.
Prerequisite: EP 302.
Explores learning theories and educational application in the classroom.

EP 380 MENTAL HEALTH IN THE CLASSROOM 3 cr.
Prerequisite: EP 302.
Considers human adjustment and mental health in relation to causative factors and explores dynamics of personal and interpersonal relationships.

EP 383 EDUCATION OF THE DISADVANTAGED CHILD 3 cr.
Prerequisite: EP 302.
Acquisition of necessary understandings of physiological, psychological, and social implications relevant to working with and teaching disadvantaged child.

EP 384 TUTORIAL EXPERIENCE IN THE PUBLIC SCHOOLS 3 cr.
Prerequisite: instructor permission.
Provides student with tutorial experience in the public schools with professional supervision.

EP 481 SPECIAL TOPICS IN EDUCATIONAL PSYCHOLOGY 3 cr.
Prerequisite: Department Chairman permission.
Provides opportunity for students to investigate in depth an area of Educational Psychology under professional supervision.

ELEMENTARY EDUCATION DEPARTMENT

ROBERT L. KING, CHAIRPERSON: BAKER, BARTHA, A. DAVIS, B. DAVIS, DeCICCO, DORSEY, ELLIOTT, GLOTT, KUHNS, LOTT, McFEELY, MILLWARD, MOTT, REILLY, RIZZO, STUART, WILLIAMS.

Requirements for a degree in Elementary Education, in addition to the University's General Education requirements and 24 credits in Professional Education, are 27 credits in Elementary Education and a concentration of at least 18 credits in one of the following academic areas: early childhood education, English, French, geography, German, history, mathematics, science, social studies, or Spanish.

COURSE DESCRIPTIONS

Required Courses in Elementary Education

EL 211 MUSIC FOR THE ELEMENTARY GRADES 2 cr.
Geared for elementary education students. Includes basic ideas for understanding, development, and confidence for future classroom teachers and their pupils in areas of music education.

EL 213 ART FOR THE ELEMENTARY GRADES 2 cr.
The creative use of art materials and an understanding of development of capacities of children through art.

EL 215 CHILD DEVELOPMENT 3 cr.
Survey of human development, from conception to adolescence, in terms of basic scientific data. Development, growth, and behavior studied and their implications for home, school, and community considered.

EL 221 CHILDREN'S LITERATURE 3 cr.
Acquisition of a wide acquaintance with children's literature, old and new. Poetry selections, annotated stories, and bibliographies will be assembled. Ways and means to develop, stimulate, and guide children's reading of literature presented. Principles and techniques of successful story-telling studied and practiced.

EL 222 TEACHING OF READING 3 cr.
Systematic coverage of teaching of reading, including methods, techniques and materials, from first through sixth grades.

EL 312 TEACHING OF ELEMENTARY SCIENCE 3 cr.
Emphasis placed upon science as it relates to child and curriculum, planning for teaching science, and recent innovations in science teaching. Course offered on the block only.

EL 313 TEACHING MATHEMATICS IN THE ELEMENTARY SCHOOL 3 cr.
Prerequisites: MA 160 and MA 250.
Recent developments in curriculum and methods of instruction of contemporary elementary school mathematics programs. Students will become acquainted with books, materials and other resources helpful to prospective teachers. Includes observations of master teachers.

EL 314 TEACHING OF HEALTH AND PHYSICAL EDUCATION 2 cr.
Games, stunts, rhythms, relays, tumbling, dances, and skills suitable for elementary school child. Teaching of health in elementary school is emphasized, including methods, materials and lesson planning.

EL 411 TEACHING OF SOCIAL STUDIES 3 cr.
Overview of social studies in elementary school. Includes study of objectives, trends, areas of content, patterns and principles of organization and techniques of teaching. Variety of learning experiences and matherials used and evaluated.

EL 413 TEACHING LANGUAGE ARTS 3 cr.
Techniques for teaching, oral and written communication, spelling,

handwriting, vocabulary development, listening, and linguistics for Elementary Education students. Evaluates recent trends and research.

ED 423 PROFESSIONAL PRACTICUM, INCLUDING SCHOOL LAW **3 cr.**
Series of conferences and related activities to prepare students for actual teaching experiences. Parallels student teaching experience in junior and senior years.

Elective Courses in Elementary Education

EL 212 TEACHING OF MUSIC IN THE ELEMENTARY GRADES 3 cr.
Prerequisite: EL 211.
Continuation of skills and understandings as developed in El 211, with emphasis on methods and materials for upper grades. Additional opportunities for growth in music reading and part singing are provided. Correlation of music with other areas.

EL 214 TEACHING ART IN THE ELEMENTARY GRADES 3 cr.
Prerequisite: EL 213.
In-depth experiences in two- or three-dimensional materials relative to art and credit for elementary school child.

EL 330 PROBLEMS IN ELEMENTARY EDUCATION 3 cr.
Prerequisite: ED 302.
For in-service teachers and those working toward permanent certification. Formulation of solutions to problems of organization and instruction in elementary school; in-depth study of teacher-pupil-parent interrelationships.

EL 351 CREATIVE ACTIVITIES IN THE ELEMENTARY SCHOOL 3 cr.
Provides student with a wide range of creative experiences in fields of art, crafts, music, rhythmics, dramatics and games in elementary school. Stress is placed upon need to help children in developing their capacities for creative expression in these areas.

EL 352 DIAGNOSTIC AND REMEDIAL READING 3 cr.
Causes of reading disability; methods of diagnosis; procedures and materials for remedial work, group and individual.

EL 353 PRE-SCHOOL EDUCATION 3 cr.
Principles and practices of guiding learning experiences of kindergarten student. Special attention given to observations, kindergarten program and its curriculum, materials, and methods of instruction.

EL 355 GUIDANCE IN THE ELEMENTARY SCHOOLS 3 cr.
Study and discussion center about child himself — his characteristics, needs, problems, materials, and relationship with others — and around techniques and procedures for identifying, studying, and giving help to children.

EL 451 TEACHING OF READING IN THE PRIMARY GRADES 3 cr.
The teaching of developmental reading, consistent with child growth, in primary grades. Methods and techniques for readiness, word perception, comprehension, work-study skills, independent reading in both group and individualized approaches studied.

EL 452 SOCIAL STUDIES IN THE PRIMARY GRADES 3 cr.
Prerequisite: EL 411.
Examination of content, objectives and resource materials for social studies in kindergarten through third grade. Research problems examined and representative units developed.

EL 461 ORGANIZATION OF THE ELEMENTARY SCHOOL AND ITS CURRICULUM 3 cr.
Study of organization of elementary school from standpoint of curriculum design and development. Role of teacher as it relates to evaluation, improvement, and development of elementary school curriculum. Designed for those who have completed student teaching or are postgraduates.

EL 462 INNOVATIONS IN ELEMENTARY EDUCATION 3 cr.
Study of innovations which influence and direct educational objectives of modern elementary school and its organization. Educational innovations dealing with curriculum, school organization, and materials of instruction. Designed for those who have completed student teaching or are postgraduates.

EL 463 WORKSHOP IN ELEMENTARY TEACHING 3 cr.
Prerequisite: At least one student teaching experience.
Designed for in-service teachers and those who are preparing to work with elementary school children, including elementary education majors who have had at least one student teaching experience. Course provides for investigation of subject matter, materials, methods and procedures used in modern elementary classroom. Emphasis placed upon observation and participation in programs currently being demonstrated in the University School.

Graduate Programs

Programs leading to the M.Ed. and Ed.D. degrees are described in the current issue of the Graduate School Bulletin. For a limited number of Elementary Education graduates, an internship program leading to the Master of Education degree is offered.

FOUNDATIONS OF EDUCATION DEPARTMENT

GERARD C. PENTA, CHAIRPERSON: CHU, MERRYMAN, ROTIGEL, THIBADEAU, YOUCIS

COURSE DESCRIPTIONS

Professional Education Courses

FE 302 HISTORY AND PHILOSOPHY OF AMERICAN EDUCATION 3 cr.
Promotes understanding of modern educational system through study of historical changes in instructional processes and ideas. Emphasis on study of educational beliefs and points of view; fostering of critical thinking concerning role of school in our social structure; meaning of democracy; the teacher and his profession, and methods and objectives of school. (Required of all students in Education.)

FE 422 SCHOOL LAW 2 cr.
Provides interpretation of school law as it pertains to needs of the teacher.

General Electives (Open to Juniors and Seniors)

FE 454 PUBLIC SCHOOL ADMINISTRATION 3 cr.
Designed to acquaint the teacher with administration and organization of American public school. Consideration given to cultural role of schools and decision-making in operation of schools. Functions and methods of all professional personnel in operation and improvement of schools also considered.

FE 455 COMPARATIVE EDUCATION 3 cr.
Comparative analysis of educational features of some Western European, "underdeveloped" and Communist nations. Development of insights into American educational ideas and practices.

FE 456 ISSUES AND TRENDS IN EDUCATION 3 cr.
Examination of important current issues in American education. A critical analysis of trends in educational innovation.

FE 457 SECONDARY SCHOOL CURRICULUM 3 cr.
Examination of social diagnosis for curriculum development, curriculum principles and procedures, patterns of organization, and curriculum issues.

FE 599 INTERNATIONAL EDUCATION STUDIES PROGRAM 3 cr.
Study of various peoples through their cultural settings and educational systems. On-site visitation to selected schools and other social agencies and institutions, seminars with school officials, and directed readings. Undergraduate or graduate credit.

Sequence in Urban Education

FE 458 ORIENTATION TO TEACHING IN URBAN CENTERS 3 cr.
Gives students understanding of children and youth in urban centers, where specialized knowledge of learning and behavior problems is required. Instructional personnel are experienced teachers at elementary and secondary levels actively engaged in urban education. Emphasis on developing understanding of special needs of disadvantaged child and how origin of attitudes and values affects relationship which exists between students and teachers. Special attention given to practical application of theoretical information to problems of urban education. Field trips are an essential aspect of course.

FE 440 FIELD EXPERIENCES IN URBAN CENTERS 6 cr.
Provides specialized experience for students desiring to teach in inner-city schools. Participants should have completed student teaching requirements at undergraduate level. Aspects to be emphasized include physical characteristics of community, background and aspirations of children and youth and specialized teacher competencies; classroom management, planning, instructional materials, teaching strategies, and evaluations. Students encouraged to take FE 458 as prerequisite. Records of comprehensive experiences in urban areas will be taken into consideration in making student teaching assignments. Schools selected for student teaching experience located in Pittsburgh.

FE 482 INTERPRETING URBAN FIELD EXPERIENCES 3 cr.
Evaluation of learning and behavior problems encountered during student teaching experience in urban schools. Flexible approach stressed to encourage wide range of investigation and exploration of psychological and sociological problems as they affect education. Supervision and guidance for investigating specific problems provided by specialists from psychology, sociology and education who will function as resource personnel, providing direction enabling students to combine experiences gained by teaching in urban schools with recent and pertinent theoretical information.

Graduate courses offered by this Department include Historical, Philosophical, Social and Comparative Foundations of Education. For specific information concerning these courses, see the current edition of the Graduate School Bulletin.

DEPARTMENT OF LEARNING RESOURCES AND MASS MEDIA

DANIEL V. MATTOX, JR., CHAIRPERSON: JULIETTE, KLINGINSMITH, LAVENBURG, LESNESKIE, MacISAAC, SARGENT

The department serves pre-service teachers and other students who are required to complete the basic course in Audio Visual Education, LR 301. In addition, many students each year take such elective courses as photography, motion picture, radio and television production.

Students may declare a *Minor in Media* by obtaining the approval of their Major adviser and the chairman of the Learning Resources Department. Eighteen semester hours of credit from the courses described below are required for the minor. At least one course from each of the following blocks must be taken: A. LR 301, 303, 482, 480; B. LR 371, 471, 472, 443, 480; C. LR 444, 445, 447, 450, 480 and D. LR 358, 373, 481 and 480.

The department also offers a Master of Education in Media degree and a Media Specialist Certificate. Refer to the current Graduate School Catalog for details. Undergraduate degrees in media are not required for graduate training.

COURSE DESCRIPTIONS

LR 301 AUDIO VISUAL EDUCATION 3 cr.
(Professional course required of all students in Education)
Prerequisite: PC 101, EPC 201 and Junior Standing
Preservice teachers gain competencies in selecting, using and evaluating audio-visual machines and materials. Performance-based activities in instructional design, materials production, machines operation and related learning resources activities relevant to prospective teaching experiences stressed.

LR 303 DESIGN AND WRITING FOR MEDIA PRODUCTION 3 cr.
Prerequisite: Junior Standing
An introduction to the design of media materials and script writing. Styles and techniques of writing will be analyzed. Classroom emphasis is on writing, critiques and revisions of designs and scripts.

LR 348 WRITING FOR RADIO AND TELEVISION 3 cr.
Presents theory and practice in planning, writing and producing various types and formats of broadcast material for radio and/or television.

LR 371 PHOTOGRAPHY 3 cr.
Introduction to photography emphasizing the potential value of teacher-made photographic materials in teaching. Both technical and artistic aspects of photography considered. Student must provide 35 mm camera and exposure meter. See instructor.

LR 373 INTRODUCTION TO RADIO BROADCASTING 3 cr.
Introduction to organization and operation of a radio station. Technical aspects of radio and programming techniques. Examination of station's relationship with educational, industrial, and other social institutions.

LR 443 SLIDE AND FILMSTRIP PRODUCTION 3 cr.
Prerequisite: LR 371
Emphasizes techniques of color and b/w slide preparation, duplication, titling and binding. Students will participate in making of a filmstrip through all stages from script to screen. Student must furnish own 35 mm camera and an acceptable exposure meter.

LR 444 MOTION PICTURE PRODUCTION 3 cr.
Emphasizes possibilities for effective use of teacher-made films in classroom. No prerequisite. Student must provide camera and exposure meter. See instructor.

LR 445 ADVANCED MOTION PICTURE PRODUCTION 3 cr.
Prerequisite: LR 444

Emphasizes motion picture production planning. Such techniques as directing, advanced picture and sound editing, and use of sound recording and laboratory facilities stressed. Also, live action cinematography, titling, animation and special effects photography investigated.

LR 447 ANIMATION 3 cr.
Prerequisite: LR 444
Introduces animation techniques and offers practical experience in planning and producing animated sequences. Work with filmograph, cut-out, puppet and full cel animation. Practice in designing, drawing, tracing, inking and painting cels, preparation of black-boards, use of cel boards, animation camera and stand; preparation of story boards and cue sheets; integration of visual and sound.

LR 450 ADVANCED AUDIO RECORDING TECHNIQUES 3 cr.
Theory and practice of recording sound for motion pictures, video tapes, audio tapes, sound filmstrips, etc., the use of sound on sound and other special recording techniques will be studied.

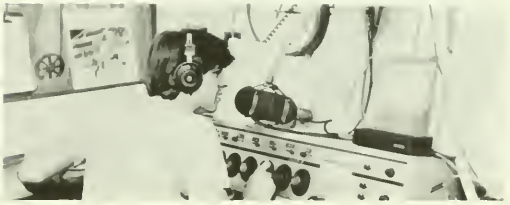
LR 471 ADVANCED PHOTOGRAPHY I 3 cr.
Prerequisite: LR 371
Students will develop camera and print-making skills to the degree that they can produce solon-quality photographic prints. Students will produce high quality negatives and prints. Emphasis is on camera and print control as well as composition and negative and print manipulation.

LR 472 ADVANCED PHOTOGRAPHY II 3 cr.
Prerequisite: LR 371
Students pursue on an individual basis photographic competencies which they want to develop to a high level of proficiency. Topics include high-contrast photography, silk screen photography, tone line bas relief, posterization, etch bleach, photo sketching, print screening, color print and slide making, lighting techniques and flash photography as well as topics pertinent to meeting a student's objectives.

LR 480 INDEPENDENT STUDY 1-3 cr.
Students may elect with the prior approval of the instructor concerned and the department to do independent study which is of an advanced nature for 1 to 3 credits each in any of the four major areas of the departmental curriculum – photography, film making, broadcast and production. Prerequisite is the basic course for each of the four areas concerned.

LR 481 TELEVISION PRODUCTION 3 cr.
Develops basic skills in television production and direction. Consideration of operating problems of a television studio, as well as functions, limitations, and capabilities of television equipment and facilities. Stress placed on educational application of television production.

LR 482 PREPARATION OF INSTRUCTIONAL MATERIALS 3 cr.
Provides experiences in planning and preparing commonly used materials for classroom and TV use: graphic materials, including layouts and lettering, mounting techniques; copying techniques, such as Thermofax, Polaroid, photography, and Xerography; laminating and color lifting.



PUBLIC SCHOOL NURSING

On January 19, 1951, The Board of Presidents of the State Colleges approved a curriculum for public school nurses leading to the degree of Bachelor of Science in Education, upon fulfillment of the following:

(1) Satisfactory completion of a three-year curriculum in an approved school of nursing and registration by the State Board of Examiners for the Registration of Nurses of Pennsylvania.

(2) Satisfactory completion of 60 credits of additional preparation, distributed as follows:

Courses Related to Public School Nursing		15 credits
PN 301	Public School Nursing	2 cr.
PN 302	Public School Organization	2 cr.
PN 401	Public Health Nursing	6 cr.
PN 402	Nutrition and Community Health	2 cr.
PN 403	Family Case Work	3 cr.
General Education		18 credits
EN 102	English II	3 cr.
EN 201	English III	3 cr.
HI 101 or 102	History of Civilization I or II	3 cr.
HI 104	History of the U. S. and Pa. II	3 cr.
PS 111	American Politics	3 cr.
SO 151	Principles of Sociology	3 cr.
Education		15 credits
FE 302	History and Phil of American Education	3 cr.
EP 302	Educational Psychology	3 cr.
PC 300	Psychology of Adjustment	3 cr.
LR 301	Audio-Visual Education	3 cr.
SH 354	Audiometry for Public School Nurses	3 cr.
Electives		12 credits

Nurses with less than three years' preparation for registration must pursue additional courses to meet the requirements for the degree.

COURSE DESCRIPTIONS

PN 301 PUBLIC SCHOOL NURSING 2 cr.
Study of role of nurse in public schools. Offers information on organization, development, implementation, and evaluation of school health services. Students given opportunity for practical experience in performing school nursing procedures and functions. Programs, policies, and procedures presented are in conformity with Pennsylvania School Health Law, Regulations of State Departments of Health and Education, and standards adopted by national health and education authorities.

PN 302 PUBLIC SCHOOL ORGANIZATION 3 cr.
Designed to acquaint student with administration and organization of American public school. Consideration given to cultural role of schools, to decision-making in operation of schools. Functions and methods of all professional personnel in operation and improvement of schools considered.

PN 401 PUBLIC HEALTH NURSING 6 cr.
Designed to provide understanding of principles of public health nursing and basic public health services which come under official jurisdiction. Traditional emerging health programs at national,

state, and local level are explored. Emphasis placed on utilization of public health services in school setting.

PN 402 NUTRITION AND COMMUNITY HEALTH 2 cr.
Study of nutritional problems of family members, from infant to aged of community. Emphasis placed on reorganizing good nutritional status and on ways of guiding families toward better nutrition. School health lunch also emphasized.

PN 403 FAMILY CASE WORK 3 cr.
Course proposes that, in order to understand a child and guide his experiences in school more intelligently, educators must have an acquaintance with his family and home situation. This involves recognizing parents' attitudes toward child, child's feelings toward his parents, child's role in family, and special factors within family life that affect his behavior and mental health. Guided experiences in working with families and preparing case studies are provided.

SPECIAL EDUCATION AND CLINICAL SERVICES

EUGENE F. SCANLON, CHAIRPERSON: M. BAHN, BORMANN, BRUNGARD, CHAPMAN, FELIX, FIDDLER, FLAMM, GEISEL, MEASE, MORRIS, NEWELL, POUNDS, REBER, SHANE, VICKERS, YAGEL

This department offers the degree of Bachelor of Science in Education in any one of three options for students whose major interest is work with exceptional children and/or adults. Each of the three options follows a prescribed sequence of courses. Students may elect to major in any one of the following fields of exceptionality:

A. Education of the Mentally and/or Physically Handicapped
B. Speech Pathology and Audiology
C. Rehabilitation Education

A. EDUCATION OF THE MENTALLY AND/OR PHYSICALLY HANDICAPPED

Completion of the sequence of study in the Education of the Mentally and/or Physically Handicapped leads to Pennsylvania Dept. of Education comprehensive certification as a teacher of the mentally and/or physically handicapped. Students will be prepared to teach mentally retarded, physically handicapped, emotionally and/or learning disabled, neurologically impaired. This program also provides an opportunity for students to seek career opportunities in the areas of welfare, mental health, and with private agencies. Student teaching experiences are provided with the mentally retarded and one of the other handicaps. The program also provides a foundation for pursuing additional work at the graduate level. Further

specialized training in mental retardation offers opportunities for qualified persons in administration, supervision, vocational rehabilitation and related fields.

In addition to fulfilling the General Education requirements established by the University and the Professional Education requirements set by the School of Education, students are obligated to complete 40 additional credits in the specialized field and its related areas, as follows:

Required Basic Courses

SE 215	Child Development	3 cr.
SE 220	Introduction to Exceptional Children	3 cr.
SE 301	Reading and Language Arts for Mentally and/or Physically Handicapped	3 cr.
SE 320	Psychology of Mentally and/or Physically Handicapped	3 cr.
SE 362	Methods of Teaching Reading	3 cr.
	OR	
EL 222	Teaching of Reading	
SE 411	Health, Physical Education & Recreation for the Exceptional	3 cr.
SE 423	Curriculum & Methods for the Mentally and/or Physically Handicapped	3 cr.
SE 453	Directed Activities I	1 cr.
SE 446	Teaching Trainable	3 cr.
SE 465	Education of Children with Social/ Emotional Maladjustment	3 cr.
SE 466	Education of Children with Learning Disabled	3 cr.

Required Related Courses

SH 254	Classroom Management of Language Disorders	3 cr.
AR 330	Arts & Crafts for the Mentally and/or Physically Handicapped	3 cr.
	OR	
MU 211	Music for Mentally and/or Physically Handicapped	3 cr.
EL 313	Teaching Math	3 cr.

Electives

SE 216	Mental Health in Schools	3 cr.
SE 422	Occupational Information	3 cr.
SE 431	Special Class Methods	3 cr.
SE 452	Psychological Practicum	3 cr.
SE 454	Directed Activities II	1 cr.
SE 460	Selected Problems in Special Education	1-3 cr.

Required Basic Courses in Mental Retardation

SE 215 CHILD DEVELOPMENT 3 cr.
Childhood foundations of human growth and development. Research from various disciplines is studied in terms of understanding physical, mental, social and emotional factors and how these interrelate throughout childhood development.

SE 220 INTRODUCTION TO EXCEPTIONAL CHILDREN 3 cr.
Surveys characteristics, needs, problems, and behavior patterns of children who deviate sufficiently from "normal" to be considered exceptional. Consideration given to those who fall intellectually both above and below average; those who are handicapped visually, acoustically, behaviorally, orthopedically, neurologically or in respect to speech patterns.

SE 301 READING AND LANGUAGE ARTS FOR THE MENTALLY AND/OR PHYSICALLY HANDICAPPED 3 cr.
Prerequisites: SE 362 or EL 222; SE 220; SE 320 and SH 254
Deals with preparation and execution of units of instruction in language arts for mentally and physically handicapped. Emphasis on consideration of special characteristics of those so handicapped when language arts units of instruction are planned. Diagnostic and clinic teaching are emphasized.

SE 320 PSYCHOLOGY OF THE MENTALLY AND/OR PHYSICALLY HANDICAPPED 3 cr.
Prerequisites: SE 220
Considers ways in which mentally and/or physically handicapped develop, learn, and adapt to various home, school, community, and sheltered settings. The handicapped as living and adjusting individuals who respond to many kinds of personal and social situations and cope successfully are shown. Psychological aspects of handicapping condition are investigated.

SE 362 METHODS OF TEACHING READING (OR EL 222) 3 cr.
Objectives, background knowledge, and understandings of developmental reading process, an over-view of elementary program, pre-adolescent and adolescent and their needs in reading, finding and providing for instructional needs, and special problems.

SE 411 HEALTH, PHYSICAL EDUCATION AND RECREATION FOR THE EXCEPTIONAL 3 cr.
Prerequisite: SE 220
Provides a thorough understanding of a program of health, physical education and recreation as it applies to individuals with mental and physical handicaps from preschool through adulthood. Special attention given to needs of individuals with developmental problems.

SE 423 CURRICULUM AND METHODS FOR THE MENTALLY AND/OR PHYSICALLY HANDICAPPED 3 cr.
Prerequisite: Senior status and permission of Department
Considers the basic content and methods for teaching mentally and/or physically handicapped. Emphasizes organization of curriculum in fundamentals and in social and pre-vocational skills for daily living and offers opportunities for exploring resource materials used for instruction at elementary and secondary levels. Special emphasis is placed on the diagnostic process and individualization of instruction.

SE 446 TEACHING THE TRAINABLE, MENTALLY RETARDED 3 cr.
Prerequisite: Junior and Senior majors
Provides for analysis of curriculum and program content for TMR children and adults. Directed toward training students to teach the trainable retarded and/or profoundly retarded in public schools, institutional facilities, or sheltered workshops.

SE 453 DIRECTED ACTIVITIES I 1-3 cr.
Prerequisite: SE 220 and by arrangement
Provides for opportunities to observe mentally and/or physically handicapped in one or more of a variety of settings. Provides opportunity for the student to confirm his/her interest in the field of special education. Offered only to freshmen, first semester sophomores, and to qualified transfer students.

SE 465 EDUCATION OF THE SOCIALLY AND EMOTIONALLY MALADJUSTED 3 cr.
Prerequisite: SE 215, SE 220, and SE 320
Provides for an understanding of the psychological and educational characteristics of those who are socially and/or emotionally disturbed. Special consideration is given to relationship between social and emotional disturbance and other areas of exceptionality.

SE 466 EDUCATION OF CHILDREN WITH LEARNING DISABILITIES 3 cr.
Prerequisites: SE 220, SE 215, and SE 320
Discusses theories and practices concerning rudiments of diagnosis and remediation of learning disabilities; study of disorders of reading, writing, listening, expressive language, and psychomotor activities.

Required Courses in Related Areas

SH 254 CLASSROOM MANAGEMENT OF LANGUAGE DISORDERS 3 cr.
(See course description under Speech Pathology and Audiology)

AR 330 ARTS AND CRAFTS FOR THE MENTALLY AND/OR PHYSICALLY HANDICAPPED 3 cr.
(See course description in Art Dept.)

EL 313 TEACHING OF MATH 3 cr.
(See course description in Math Education)

Electives

SE 216 MENTAL HEALTH IN THE SCHOOLS (OR PC 300) 3 cr.
Concept of mental health developed in terms of optimal human functioning and concentrates on positive aspects and modifications of behavior, rather than on malfunctioning and clinical treatment of mental and emotional disorders. The practical application of mental health principles in school setting is emphasized.

SE 422 ORIENTATION TO REHABILITATION 3 cr.
Prerequisite: Junior and Senior majors
Principles and practices in rehabilitation, with attention to contributions of teachers, counselors, nurses, social workers, psychologists, speech therapists, and other professional workers.

SE 452 PSYCHOLOGICAL PRACTICUM 3 cr.
Prerequisite: Six hours in Psychology
Designed to provide students with experiences in working with emotionally disturbed residents in a hospital setting. Students are also required to attend seminars to discuss the various phases of the training experience. Offered during the summer for a ten (10) week session. Enrollment restricted and acceptance competitive.

SE 454 DIRECTED ACTIVITIES II 1-3 cr.
Prerequisite: Jr. & Sr. majors who qualify by virtue of academic standing and interest.
Critical exploration of problems relating to exceptional children.

B. SPEECH PATHOLOGY AND AUDIOLOGY

Completion of the sequence of studies in Speech Pathology and Audiology leads to Pennsylvania Dept. of Education certification as a Speech Correctionist and provides students with the basic skills to work with individuals exhibiting speech, hearing, or language disorders of communication. Students will also be prepared to pursue careers as Speech Clinicians in early childhood education programs, welfare programs, public health facilities, and rehabilitation settings. The University Speech and Hearing Clinic serves as a laboratory for required clinical practice, and a semester of student participation in an established speech and hearing program meets the student teaching requirement. Since in some settings a Master's Degree is required for employment, emphasis throughout the curriculum is placed on encouraging and promoting students' participation in graduate programs of Speech Pathology and Audiology.

In addition to fulfilling the General Education requirements established by the University and the Professional Education requirements set by the School of Education, students are obligated to complete 40 additional credits in the specialized field and its related areas. An option allows substitution of Math 362, Probability and Statistics (see listing under Math Dept.) for Ed Psy 302, Educational Tests and Measurements, in the Professional Education sequence.

Required Basic Courses

SH 111	Fundamentals of Speech and Hearing	3 cr.
SH 122	Phonetics	3 cr.
SH 222	Introduction to Audiology	3 cr.
SH 232	Speech Pathology	3 cr.
SH 242	Bases of Oral Communication	3 cr.
SH 251	Anatomy and Physiology of the Speech and Hearing Mechanism	3 cr.
SH 302	Language Development	3 cr.
SH 310	Speech Clinic I	1-3 cr. (1 recommended)
SH 311	Aural Rehabilitation	3 cr.
SH 312	Organization and Administration of Speech and Hearing Programs (also counts as Methods Course in Professional Education Requirements)	3 cr
SH 320	Speech Clinic II	1-3 cr. (3 recommended)
SH 321	Development of Language	3 cr.

Required Courses in Related Areas

SE 220	Introduction to Exceptional Children	3 cr.
SE 326	Methods of Teaching Reading or	3 cr.
EL 222	Teaching of Reading	3 cr.

Recommended Electives (one required)

SE 215	Child Development	3 cr.
EL 215	Child Development	3 cr.
PC 300	Psychology of Adjustment	3 cr.
SE 320	Psychology of Mentally Retarded	3 cr.
EN 333	Trends in Linguistics	3 cr.
SH 330	Speech Clinic III	1-3 cr.

Required Basic Courses in Speech Pathology and Audiology

SH 111 FUNDAMENTALS OF SPEECH AND HEARING 3 cr.
(Prerequisite for all other required courses in the division except Phonetics.)
Introduction to study of physiological, acoustical, and scientific processes involved in production and reception of speech. The genetic development of speech sounds, and factors that hinder or facilitate speech and language acquisition.

SH 122 PHONETICS 3 cr.
Detailed study of phonemes of American-English speech from a physical and acoustical point of view. Development of proficiency in use of International Phonetic Alphabet for transcription and translation of speech sounds.

SH 222 INTRODUCTION TO AUDIOLOGY 3 cr.
The auditory function, anatomy of auditory mechanism, psychophysics of sound, types and causes of hearing loss, measurement of hearing, and educational considerations for hearing handicapped child.

SH 232 SPEECH PATHOLOGY 3 cr.
Basic orientation to speech disorders, their prevalence, symptoms, causes and treatment. Disorders of articulation and rhythm emphasized, with some consideration given to voice problems, cleft palate, cerebral palsy and defects of symbolization.

SH 242 BASES OF ORAL COMMUNICATION 3 cr.
Study of communication process with emphasis on physical

characteristics of sound production, transmission and perception of the sound, and the evolvement and use of symbols for meaningful communication. The scientific principles of normal oral communication stressed, and language learning recognized as basis for oral communication.

SH 251 ANATOMY AND PHYSIOLOGY OF THE SPEECH AND HEARING MECHANISM 3 cr.
Consideration of genetic development, structure, and function of organs of speech and hearing. Anatomical systems involved in respiration, phonation, articulation, and hearing, and relationships between systems in production and reception of speech.

SH 302 LANGUAGE DEVELOPMENT 3 cr.
Study of development of an interpersonal communication system; language as a system of symbols for communication; the structure of the English language, including phonology, syntax, and semantics with emphasis on the generative evolvement of sentences. Highlighting of neurological, social and psychological bases of language development.

SH 310 SPEECH CLINIC I 1-3 cr.
Prerequisite: Approval by advisor. 1 credit recommended.
Orientation to theory and techniques of speech and hearing therapy as applied to specific clients. Introduction to lesson planning and writing of case histories and reports. Observation of clients and limited participation with clients.

SH 311 AURAL REHABILITATION 3 cr.
Consideration of effects of varied degrees of hearing loss sustained by individuals at different stages of development and study of total education and rehabilitative orocedures for hard-of-hearing child or adult. Application of techniques of teaching the hard-of-hearing to persons presenting language problems of other etiologies.

SH 312 ORGANIZATION AND ADMINISTRATION OF SPEECH AND HEARING PROGRAMS 3 cr.
(Meets requirement for Professional Education Course.)
Establishment and maintenance of speech and hearing programs within various administrative organizations, particularly in the public schools. Techniques of client identification, scheduling, record keeping, appropriate referral, material and equipment selection, teacher and parental counseling, and the development of coordinated professional and inter-disciplinary procedures.

SH 320 SPEECH CLINIC II 1-3 cr.
Prerequisite: SH 310. 3 credits recommended
Experience in working with individuals or groups of persons who exhibit speech or hearing problems. Lesson planning, writing of reports, and case histories of a detailed nature.

SH 321 DEVELOPMENT OF LANGUAGE 3 cr.
Nature of speech and language as a behavioral influence and as a communicative code; behavior in response to language, and psychological principles involved. Normal evolvement of social, motor, and speech skills emphasized and their interrelationships in making satisfactory personal adjustments.

Required Courses in Related Areas

SE 220 INTRODUCTION TO EXCEPTIONAL CHILDREN 3 cr.
(See course description under Education of the Mentally Retarded)

EL 222 TEACHING OF READING 3 cr.
(See course description under Elementary Education)
OR
SE 362 METHODS OF TEACHING READING 3 cr.
(See course description under Education of the Mentally Retarded)

Recommended Electives

SE 215 CHILD DEVELOPMENT 3 cr.
(See course description under Education of the Mentally Retarded)
OR
EL 215 CHILD DEVELOPMENT 3 cr.
(See course description under Elementary Education)

PC 300 THE PSYCHOLOGY OF ADJUSTMENT 3 cr.
(See course description under Psychology Department)

SE 320 PSYCHOLOGY OF MENTALLY RETARDED 3 cr.
(See course description under Education of the Mentally Retarded)

EN 331 TRENDS IN LINGUISTICS 3 cr.
(See course description under English Department)

SH 330 SPEECH CLINIC III 1-2-3 cr.
Experience, of an independent nature, in working with individuals or groups of persons who exhibit speech or hearing problems. Offered for those who specifically desire or need practicum experience in addition to Speech Clinic II.

Dual Level Courses (open to upper level majors with permission of instructor)

SH 410 ARTICULATION 3 cr.
Comparative evaluation of traditional, sensory-motor and linguistic, theories of speech production with major emphasis on functioning of articulatory mechanism; etiology, symptomatology, and diagnosis of articulatory disorders of functional, organic, or neurological origin with appropriate methods of remediation adapted to either group or individual use. Critical review of selected topics of research.

SH 412 CLEFT PALATE 3 cr.
Study of over-all problems associated with phenomenon of cleft lip and palate with special emphasis in areas of speech, hearing, and language. Included in scope will be human embryology, with specific emphasis on oral facial development; physical remediation, including both surgical and prosthetic repair; effects of clefts on structure and function of speech and hearing mechanism; role of speech correctionist on cleft palate team; evaluation and current remedial procedures for speech, hearing, and language problems.

SH 416 STUTTERING 3 cr.
Intensive study of nature and causes of stuttering. Considerable emphasis on diagnoses and management. Counseling and learning theory applications as two main approaches to treatment. Consideration of the person as a stutterer. Review of pertinent and recent research topics.

SH 418 VOICE 3 cr.
Advanced study of scientific principles of voice production emphasizing malfunctioning, structural abnormalities, deviant innervation, and pathologies which relate to voice defects; identification, diagnosis, and therapeutic considerations of remediation for various voice problems and relationship between voice disorders and disorders of personality. Special treatment given to treatment of laryngectomized.

SH 430 LANGUAGE DISORDERS OF CHILDREN 3 cr.
A highlighting of current research regarding normal acquisition and development of language with special consideration of factors related to language delay. Emphasis on various approaches in identification and differential diagnosis of language disorders and principles and techniques of remediation, including Association Method as developed with children labeled aphasic.

Courses for Non-Majors

SH 254 DISORDERS OF LANGUAGE ACQUISITION 3 cr.
Study of aspects of speech, language, and hearing problems pertaining to classroom situation. Types of speech and hearing disorders, conducting speech and language improvement lessons, classroom aids for the speech- and hearing-defective child, and school and community resources for these children. (Required for majors in Special Education: Mentally Retarded, and suggested for Elementary Education majors.)

SH 354 AUDIOMETRY FOR PUBLIC SCHOOL NURSES 3 cr.
Intensive review of physiology of hearing; etiologies and classifications of hearing loss; use of audiometric testing equipment in schools; interpretation of audiogram; and role of nurse in public health hearing programs.

C. REHABILITATION EDUCATION

Completion of this program leads to the Bachelor of Science in Education with a specialization in rehabilitation. The program is designed for students seeking career opportunities with health and welfare agencies and institutions. Although originally identified with the needs of the war disabled, the benefits of Rehabilitation have been extended to larger requirements of civilian handicapped. The program also provides a foundation for pursuing additional work at the graduate level.

In addition to filling the General Education requirements established by the University and the Professional Education requirements set by the School of Education, students are obligated to complete approximately 40 additional credits in the specialized field and its related area, excluding Field Training and Practicum, as follows:

Required Basic Courses

SR 220	Neurological Basis of Disability (formerly Physical Basis of Disability)	3 cr.
SR 311	Rehabilitation of the Blind and of the Deaf	3 cr.
SR 312	Psychological Basis of Disability	3 cr.
SR 321	Principles and Methods of Rehabilitation (formerly SR 313 – same title)	3 cr.
SR 322	Rehabilitation Case Study and Interpretation	3 cr.
SR 411	Rehabilitation of the Post-Surgical Patient	3 cr.
SR 412	Occupational Aspects of Rehabilitation (formerly SR 324 – Occupational Information)	3 cr.
SR 421	Field Training in Rehabilitation (formerly SR 405 – same description)	12 cr.
SR 422	Rehabilitation Practicum (formerly SR 406 – same description)	2 cr.

Required Related Courses

SE 215	Child Development	3 cr.
SE 220	Introduction to Exceptional Children	3 cr.
SE 320	Psychology of the Mentally Retarded	3 cr.
PC 357	Abnormal Psychology	3 cr.
BI 151	Human Physiology	3 cr.
SO 338	Introduction to Social Work	3 cr.
MA 362	Probability and Statistics	3 cr.

Required Basic Courses in Rehabilitation

SR 220 NEUROLOGICAL BASIS OF DISABILITY
(Formerly Physical Basis of Disability)
Prerequisites: Human Physiology: Introduction to Exceptional Children
Study of brain and spinal cord with emphasis on cortical and sub-cortical mechanisms instrumental in normal motion, coordination and bodily sensation, exclusive of vision and hearing. Discussion and demonstration of conditions of cerebral palsy, poliomyelitis, traumatic paraplegias, cerebro-vascular accident, Parkinson's disease, multiple sclerosis; and rehabilitative procedures.

SR 311 REHABILITATION OF THE BLIND AND THE DEAF 3 cr.
Prerequisites: Neurological Basis of Disability; General Psychology
Structure and function of visual and auditory systems with emphasis

on the importance of seeing to mobility in environment, and on hearing to the development of human communication. Discussion of causes of visual and auditory pathologies; braille, mobility training; speech reading and amplification; and other procedures of rehabilitation.

SR 312 PSYCHOLOGICAL BASIS OF DISABILITY 3 cr.
Prerequisites: SR 220, SR 311, or permission of instructor
Study of emotional and social responses which govern behavior and relationships of handicapped individuals and rehabilitation workers alike, with emphasis on role of disability in formation of concept of human worth.

SR 321 PRINCIPLES AND METHODS OF REHABILITATION (Formerly SR 313) 3 cr.
Prerequisites: SR 220, SR 311, SR 312
Delineates the roles of members of professional disciplines of medicine, psychology, prosthetics, orthodontics, audiology, speech pathology, physical and occupational therapy in restoration of the handicapped; use of diagnostic information; significance and interpretation of medical examination; role of rehabilitation counselor in the agency.

SR 322 REHABILITATION CASE STUDY AND INTERPRETATION 3 cr.
Prerequisites: SR 311, SR 312
Purpose and techniques of case history taking; meaning and evaluation of diagnostic information; psychological evaluation in terms of mental ability, personality, attitudes and dexterity skills; role of disabled individual's family in planning of services, referrals, and report writing.

SR 411 REHABILITATION OF THE POST-SURGICAL PATIENT 3 cr.
Prerequisites: SR 321, SR 322
Influence of prospective surgery on human emotion and outlook; the effect of alteration or removal of body parts on personality and physical skills. Study of mastectomy; colostomy; laryngectomy; limb amputation; reconstruction of facial disfigurement; cardiovascular disease; residual capabilities.

SR 412 OCCUPATIONAL ASPECTS OF REHABILITATION 3 cr.
(formerly SR 324 — Occupational Information)
Prerequisites: SR 322, SR 411, or permission of instructor.
The realism of world of work and relationship of gainful employment to human autonomy and decision-making. Types of jobs, levels of required skills, potential capabilities of the handicapped relative to specific job responsibilities; methods of assessing potential job success; sheltered workshops.

SR 421 FIELD TRAINING IN REHABILITATION 12 cr.
(formerly SR 405)
Prerequisites: SR 322, SR 411, SR 412
Emphasizes development of the student rehabilitation coordinator by working with disabled clients in a public or private agency. Writing and analysis of case reports, counseling of clients, understanding of agency responsibilities and limitations, referral, follow-up, and final evaluation of client's ability to function with various degrees of autonomy.

SR 422 REHABILITATION PRACTICUM 2 cr.
(formerly SR 406)
Taken concurrently with SR 421
Discussion of current topics of interest in the field, such as state and federal legislation; new prosthetic advances, proposals of the National Rehabilitation Association; or recent techniques in working with specific disabilities.

Required Courses in Related Areas

SE 215 CHILD DEVELOPMENT
(See course description under Education of the Mentally Retarded)

SE 220 INTRODUCTION TO EXCEPTIONAL CHILDREN
(See course description under Education of the Mentally Retarded)

SE 320 PSYCHOLOGY OF THE MENTALLY AND/OR PHYSICALLY HANDICAPPED
(See course description under Education of the Mentally Retarded)

PC 357 ABNORMAL PSYCHOLOGY
(See course description under Psychology Dept.)

BI 151 HUMAN PHYSIOLOGY
(See course description in Biology Dept.)

SO 338 INTRODUCTION TO SOCIAL WORK
(See course description in Sociology Dept.)

MA 362 PROBABILITY AND STATISTICS
(See course description in Math Dept.)

Recommended Electives

Certain related courses will be recommended for individual students dependent upon interest and needs.

Courses for Non-majors

Students in other departments not intending to major in Special Education but who wish to improve their understanding of exceptionality may elect certain courses in Mental Retardation, Speech Pathology and Audiology, and Rehabilitation as indicated by (*); or other courses may be open to non-majors by departmental permission

COUNSELOR EDUCATION DEPARTMENT

GEORGE L. SPINELLI, CHAIRPERSON: CULP, SAYLOR, PESCI, WASHBURN, WILSON, WORZBYT.

The courses listed below are available, as electives and as offered, to undergraduate students in Education, in-service teachers, and other school personnel seeking a broad understanding of helping roles in a school program of guidance services. These courses are not designed for those who would aspire to become school counselors. For more information on counselor education programs see the current Graduate School Bulletin.

COURSE DESCRIPTIONS

CE 251 FUNDAMENTALS OF GUIDANCE 3 cr.
This course is an elective for upper level undergraduate students in Education and aims to provide a broad understanding of the role of the classroom teacher in a school guidance program.

CE 252 GUIDANCE IN SCHOOL SETTINGS 3 cr.
This is a survey course in guidance designed as an elective for in-service teachers and school personnel other than counselors.

CE 253 COUNSELING IN SCHOOL SETTINGS 3 cr.
This is an elective course designed to provide in-service teachers and school personnel, other than counselors, a basic understanding of the knowledge, information, and skills appropriate to counseling with individuals and groups.

The School of Fine Arts

J. CHRISTOPHER BENZ, DEAN

The School of Fine Arts which is composed of the Departments of Art and Music was established in 1966 and offers programs leading to the degrees of Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Science in Art Education, and Bachelor of Science in Music Education. The latter two degrees also include certification to teach kindergarten through twelfth grades in the Commonwealth of Pennsylvania.

The School of Fine Arts has three commitments: to provide the highest quality professional education for creative and performing artists, scholars, and teachers in the arts: to offer all University students a program of general liberal education which leads to an appreciation of aesthetic values; and to play a major role in the cultural life of the University, community, and the region through an extensive program of performances and exhibitions.

Requirements for graduation in the School of Fine Arts are the University requirements of a minimum of 124 semester hours with a cumulative quality point average of 2.0 (C), the last thirty semester hours must be taken on campus, and the General Education requirements must be fulfilled. There are no additional School requirements.

ART AND ART EDUCATION DEPARTMENT

BENJAMIN T. MILLER, CHAIRPERSON: BALSIGER, BEN-ZVI, BURWELL, CLAY, DeFURIO, DONGILLA, DROPCHO, FREUND, HAMILTON, INNES, JOHNSON, LOVETTE, ROSS, RUSSELL, SEELHORST, J. SLENKER, R. SLENKER, VISLOSKY, WERT.

The Department of Art provides both general and special courses in art directed toward the development of the student's creative and expressive abilities. Degrees offered are Bachelor of Arts in either Art History or Art Studio, and the Bachelor of Science in Art Education. The degree in Art Education provides certification for teaching art from K through 12 in the schools of Pennsylvania.

Each advisor within the Department of Art will be able to notify the student of courses that are required within each specialty, and to help the student become aware of options that are available through electives. Through advisement, the Department of Art helps the student to fashion the most desirable program possible to meet the individual student's needs.

All art majors are obligated to fulfill the University require-

ments for General Education. The Department of Art expects that art majors will maintain a 2.5 average in major courses and this will be a prerequisite to student teaching. A minor in art is available, consisting of at least 15 credits in art courses approved by the chairman of the Department of Art.

CURRICULA

B.A. ART HISTORY		B.A. ART STUDIO		B.S. ART EDUCATION	
Art Core	24	Art Core	30	Art Core	30
Art History	31	Art Studio	30	Art Studio	9
General Ed.	52	General Ed.	52	Electives (Art Related)	6
Electives	17	Electives	12	Art Education	12
	124		124	General Ed.	52
				Prof. Education	23
					132

Core Program

All art majors are required by the Department to complete 24–30 credits of core courses including:

AR 100	Arts of the Twentieth Century	3 cr.
AR 111	Drawing	3 cr.
AR 112	Fundamentals of Drawing and Design	3 cr.
AR 113	Design	3 cr.
AR 211	Painting	3 cr.
AR 215	Sculpture	3 cr.
AR 413	Seminar in Art	3 cr.

Students in the art history program must elect one additional course, while those students in the art education or art studio programs must elect three additional courses from the following:

AR 213	Crafts	3 cr.
AR 214	Ceramics	3 cr.
AR 216	Metals	3 cr.
AR 217	Printmaking	3 cr.
AR 218	Graphic Design	3 cr.
AR 219	Fabrics	3 cr.

COURSE DESCRIPTIONS

Art Education Courses

AT 315 SEMINAR IN ART EDUCATION 3 cr.
A seminar to introduce the art education major to the principles and practices of teaching visual arts K through 12. Field experiences, pre-student teaching activities, introduction to literature, history, and philosophies of art education emphasized. (Prerequisite to student teaching) 3 hours lecture.

AT 316 ART EDUCATION MATERIALS AND PRACTICUM 3 cr.
An art education studio which will utilize investigation and exploration of typical art materials, including sources and resources of supplies, equipment, resource personnel, and visual media for a full range of multi-media and visual experiences. The studio endeavors will be followed by a practicum utilizing the above sources in teaching situations with children, youth, and adults. (Prerequisite to student teaching) 2 hours lecture, 1 hour lab.

AT 317 ART EDUCATION METHODOLOGY AT THE ELEMENTARY LEVEL 3 cr.
Examines children's artistic development, art programs, planning, motivation, and evaluation. Weekly teaching experience is an

integral part of the course. (Prerequisite to student teaching) 2 hours lecture, 1 hour lab.

AT 318 ART EDUCATION METHODOLOGY AT THE SECONDARY LEVEL 3 cr.
Relationship of art education to total secondary curriculum is studied to determine goals of junior-senior high school art. The adolescent and his creative products are analyzed to help prospective art teacher to identify himself with problems of students. (Prerequisite to student teaching) 2 hours lecture, 1 hour lab.

AT 330 ART FOR THE MENTALLY AND PHYSICALLY HANDICAPPED 3 cr.
The materials and processes of arts and crafts are studied for opportunities they offer in the training, therapy, and education of students who are mentally retarded or crippled, or need special help for any reason. 2 hours lecture, 1 hour lab.

AT 482 INDEPENDENT STUDY 1-6 cr.

Professional Education Courses

ED 421 STUDENT TEACHING 6 cr.
Experience in teaching art at the elementary level; coordination and visitation by a University faculty member with daily supervision by a cooperating classroom teacher.

ED 441 STUDENT TEACHING 6 cr.
Experience in teaching art at the secondary level; coordination and visitation by a University faculty member with daily supervision by a cooperating classroom teacher.

ED 442 PROFESSIONAL PRACTICUM 2 cr.
An experience which parallels student teaching and includes such activities as professional readings, discussions, observations and accumulation and organization of teaching materials.

Art History Courses

AH 101 INTRODUCTION TO ART 3 cr.
Designed to introduce the student to the significance of art as related to contemporary living and our historical heritage. 3 hours lecture.

AH 115 ANCIENT AND MEDIEVAL ART 3 cr.
Study of art of man from Prehistoric times to the Middle Ages. Man's artistic development is seen in light of political, social, economic, and religious events influencing him. 3 hours lecture.

AH 116 RENAISSANCE AND BAROQUE ART 3 cr.
Study of art from the Renaissance to the Baroque in light of the historical events which affect man's artistic impulses and development. 3 hours lecture.

AH 219 HISTORICAL PAINTING TECHNIQUES 3 cr.
The art major is encouraged to experience a series of historical painting techniques that have been used by artists of the past. Each student will develop demonstration paintings based on theories and formulas of a particular artist or culture. Experiences will include exploration in such painting media as fresco, egg tempera, and oil. 2 hours lecture, 1 hour lab.

AH 406/506 ANCIENT MIGRATORY ART 3 cr.
A survey of art from various ancient cultures which reflect contacts known and theoretic. Such cultures as the Celtic, Chinese, Indus Valley, Mesopotamian, African, Oceanic, American Indian, Pre-Columbian, and Egyptian are covered. 3 hours lecture.

AH 411 MODERN ART 3 cr.
A survey of the revolutionary movements which began about 1850 and the trends within the contemporary arts are explored. 3 hours lecture.

AH 412 CLASSICAL ART 3 cr.
Historical survey of the painting, sculpture, architecture, decorative, and utilitarian arts of the Classical period, including the art of

pre-Greek cultures (Minoan, Mycenaen), Etruscan, and Roman. 3 hours lecture.

AH 413 SEMINAR IN ART 3 cr.
Intended to help students develop adequate vocabularies and methods to be used in discussion and criticism of works of art. 3 hours lecture.

AH 407/507 MEDIEVAL ART 3 cr.
Art and architecture of Europe during the Middle Ages, beginning with early Christian and Byzantine art and concluding with art of Romanesque and Gothic periods. 3 hours lecture.

AH 408/508 ITALIAN RENAISSANCE ART 3 cr.
Covers span of Italian art from 1400's through 1650 and Mannerist movement. Special attention paid to great masters of the period. 3 hours lecture.

AH 416: NORTHERN RENAISSANCE ART 3 cr.
Explores phenomena of art north of the Alps from 1400 to 1600, especially as it appears in the Lowlands, as well as side explorations into art of France, Germany Austria, and the court at Prague, 3 hours lecture.

AH 409/509 BAROQUE AND ROCOCO ART 3 cr.
A general survey of art from 1575–1775, will include architecture, sculpture, painting, and other arts. 3 hours lecture.

AH 418 PRACTICUM IN SLIDE ROOM PROCEDURES 1 cr.
A practicum course devoted to study of slide room practices and techniques: includes organization, cataloguing, filing, mounting and labeling of slides. 2 hours lab

AH 419 MUSEUM INTERNSHIP 3-6 cr.
The student will work at the cooperating museum under the supervision of the museum director. Museum techniques and practices in an "on-the-job" training situation will be stressed.

AH 422/522 ART IN AMERICA 3 cr.
Surveys American art and its relation to the development of American ideas and ideals. 3 hours lecture.

AH 424/524 ART OF THE EAST 3 cr.
The development of art in China India, and Japan from its Neolithic origins to the traditions of later historical times. 3 hours lecture.

AH 426/526 PRE-COLUMBIAN ART 3 cr.
A survey of artistic traditions of the Pacific Ocean, Pre-Columbian of Meso-America and South America and North American cultures. 3 hours lecture.

AH 482 INDEPENDENT STUDY 1-6 cr.

Art Studio Courses

AR 100 ARTS OF THE TWENTIETH CENTURY 3 cr.
Designed to expand student response to visual, aural, and kinetic art forms of this century with special emphasis on recent decades. Investigative experience to help individuals develop an understanding of how sensuous materials are transformed by the artist to communicate ideas and feelings in movement music, sculpture, painting, theatre, literature, and film. The course includes lecture, studio, and field experiences. 2 hours lecture, 2 hours lab.

AR 111 DRAWING 3 cr.
A foundation course in drawing, including a study of the structure of drawing and composition with a variety of media and subject matter. 6 hours lab.

AR 112 FUNDAMENTALS OF DRAWING AND DESIGN 3 cr.
A course which seeks to integrate basic principles and fundamentals of drawing and design. 6 hours lab.

AR 113 DESIGN 3 cr.
Basic elements and principles of design and color are studied. Basically, a course in design in two dimensions. 6 hours lab.

AR 211 PAINTING 3 cr.
An introductory course in painting in which a variety of materials, techniques, and approaches are explored. 6 hours lab.

AR 213 CRAFTS 3 cr.
An introductory course in crafts which seeks to bring about an understanding of form through involvement with wood as a material and its related techniques. 6 hours lab.

AR 214 CERAMICS 3 cr.
A general introduction to the techniques and aesthetics of clay. The student will work both at the wheel and with hand building methods. 6 hours lab

AR 215 SCULPTURE 3 cr.
Introductory course to sculpture with emphasis on study of form as well as visualizing in the third dimension. 6 hours lab.

AR 216 BASIC METALS 3 cr.
Introduction to metalwork with emphasis upon creation of functional and non-functional art objects. Approached from viewpoint of beginning craftsman learning basic processes of metal fabrication. 6 hours lab.

AR 217 PRINTMAKING 3 cr.
Introduction to basic techniques of production of fine prints including, work in relief, intaglio, lithograph, and serigraph processes. 6 hours lab.

AR 218 GRAPHIC DESIGN 3 cr.
Students explore various techniques and how they can be translated into commercial art work, package design, trademark, and other design problems. Lettering is stressed, both instant type and hand lettering. 6 hours lab.

AR 219 FABRICS 3 cr.
Provides student with introductory working knowledge in design and execution of projects in non 4/harness loom weaving, macrame, stitchery, and related fabric areas. Other fabric techniques available for students to explore as desired. 6 hours lab.

AR 311 PAINTING 3 cr.
Prerequisite: AR 211.
Student given opportunity for continued growth in his creative and expressive ability through painting. 6 hours lab.

AR 312 CERAMICS 3 cr.
Prerequisite: AR 214.
Student concentrates in an area of his choice. Introduction given to kiln techniques and methods of glaze testing. 6 hours lab.

AR 313 SCULPTURE 3 cr.
Prerequisite 215.
Emphasizes the additive or constructed approach to sculptural concepts. Student becomes involved with welding, plastics, metal, plaster, and related materials. 6 hours lab.

AR 314 THEATRE ARTS 3 cr.
Exploration of traditional and experimental design for theatre and theatre-related experiences. Theory and practice in design, construction, painting, and lighting. 6 hours lab.

AR 315 PRINTMAKING 3 cr.
Prerequisite: Art 217.
The student will concentrate on two of the basic printmaking processes, and will be introduced to new techniques in his chosen area of concentration. 6 hours lab.

AR 316 METALS 3 cr.
Prerequisite: AR 216.
Additional jewelry making and metalworking processes employing lapidary art, beginning metalsmithing (raising), elementary casting, and enameling on metal. 6 hours lab.

AR 321 DRAWING 3 cr.
Prerequisite: AR 111 & 112
An intermediate course in drawing, designed to meet problems of student who has some background in the field. Problems of composition, two and three dimensional relationships, and surface are on an individual basis. 6 hours lab.

AR 451 ADVANCED CRAFTS 3 cr.
Designed for student to explore crafts area in depth. The design and construction of functional objects will be undertaken, with empha-

sis on innovation with wood forms and its related techniques. 6 hours lab.

AR 452 ADVANCED CERAMICS 3 cr.
Continued exploration of the field of ceramic production, along with kiln firing and glaze formulation. 6 hours lab.

AR 453 ADVANCED SCULPTURE 3 cr.
Gives student opportunity to pursue independent study in sculpture. Materials and processes will be of his choosing and the work related to his own concepts, with the hope that these concepts will be broadened. 6 hours lab.

AR 454 ADVANCED PAINTING 3 cr.
Individual experimentation and exploration by the painter, investigation of the various technical approaches. 6 hours lab.

AR 455 ADVANCED GRAPHIC DESIGN 3 cr.
Stresses advanced techniques in layout and illustration. The student explores ideas, such as invention of trademarks and how products are created. Layouts are analyzed as to their quality. Package design is studied. (Prerequisite AR 218) 6 hours lab.

AR 457 ADVANCED PRINTMAKING 3 cr.
Student elects to study one of printmaking processes in greater depth and works toward development of own techniques, working processes, and ideas. 6 hours lab.

AR 459 ADVANCED FABRICS 3 cr.
Provides student with a working knowledge in design and execution of projects in weaving macrame, and related areas. Other fabric techniques will be available for the students to explore as desired. 6 hours lab.

AR 460 ADVANCED METALS 3 cr.
Design and processes associated with art of metal are given greater concentration. The developing craftsman encouraged to investigate in depth, one or more of the metal arts as an extension of the basic courses. 6 hours lab.

AR 482 INDEPENDENT STUDY 1-6 cr.

Service Courses

HE 213 PRINCIPLES OF DESIGN 2 cr.
Principles of design and color are studied and applied to a crafted object. Major emphasis on aesthetic quality inherent in designing with materials. 2 hour lab.

EL 213 ART FOR ELEMENTARY GRADES 2 cr.
Course basic to creative use of art materials and an understanding of development of capacities of children through art. 1 hour lecture, 1 hour lab.

EL 214 TEACHING ART IN ELEMENTARY GRADES 3 cr.
Prerequisite: EL 213
Students offered in-depth experiences in two and three-dimensional materials relative to art for elementary school child.

MUSIC AND MUSIC EDUCATION DEPARTMENT

RICHARD S. KNAB, CHAIRPERSON: BACHMANN, BECKER, BERNAT, BIRD, BORST, CHA, DeCESARE, DiCICCO, DIETZ, FRY, GODT, GOLZ, HULBERT, INTILI, JOHNSON, KENNEY, LLOYD, LUCHSINGER, McNAUGHTON, MALITSKY, OLMSTEAD, PERKINS, D. PERLONGO, S. PERLONGO, SARTORI, STAPLES, TETI, THORELL, VOUKLIZAS, WEBER, WILDEBOOR.

The Department of Music has a three-fold mission: (1) Professional preparation of music educators and performers, (2) general education for the University, and (3) programs of music for the community. Degrees offered include the Bachelor of Arts in Music, the Bachelor of Fine Arts in Music, and the Bachelor of Science in Education with a major in Music.

Admission to the Music Department requires satisfactory completion of an audition in addition to the University's general requirements. Detailed information will be sent to the applicant upon request.

A student wishing to minor in music must elect a minimum of 15 credits in music courses as approved by the Department Chairperson.

CURRICULA

The program leading to the Bachelor of Arts in music has been designed to give the Liberal Arts student a considerable, but not necessarily a professional experience in music. The student will expect to gain a broad understanding of the culture in which he lives, and the function of music in that culture. The student seeking this degree has the choice of two concentrations: Music History and Literature and Music Theory and Composition.

The program leading to the Bachelor of Fine Arts in Music (equivalent to the Bachelor of Music Degree) is a flexible program with a major in one of 18 areas of performance. The graduate of this program will be prepared to audition for membership in a professional music organization.

The program leading to the Bachelor of Science in Education with a music major leads to certification to teach in the schools of Pennsylvania.

Core Program

Requirements for ALL music majors are:

MU 115, 116, 215, 216	Theory I through IV	12 cr.
MU 111, 112	Sight Singing I and II	4 cr.
MU 113, 114	Ear Training I and II	2 cr.
MU 220, 221	Music Literature I and II	4 cr.
MU 301, 302	Music History I and II	6 cr.

Special Requirements

1. Each student must declare a primary performing medium. Those who elect voice as their primary instrument normally elect piano as a secondary instrument; those who elect piano as their primary instrument normally elect voice as their secondary instrument. Performance juries are held at the end of each semester. Students are expected to complete the requirements for their performing area and level. Piano proficiency is required in all degree programs.

2. Ensemble participation is required each semester in the student's primary performing medium.

3. Students must attend (1) all Department and Area recitals, and (2) ten campus recitals and concerts each semester.

B.A. IN MUSIC

In addition to the Core Program, requirements for the Bachelor of Arts in Music include 22 additional credits in music, of which 16 credits must be in the concentration selected, as follows:

Music Theory and Composition or Music History and Literature	16 cr.
Music Electives	6 cr.

B.F.A. IN MUSIC (BACHELOR OF MUSIC)

In addition to the Core Program, requirements for the Bachelor of Fine Arts in Music, which is a degree in performance, are 44 more credits in the following:

Applied Music
MU 217, 218 – Keyboard Harmony I and II
Upper Division Music Electives
Junior and senior Recitals required in the primary instrument

B.S. IN MUSIC EDUCATION

Requirements for the Bachelor of Science in Music Education are as follows:

Music Education — 36 hrs.

Class Brass I	1
Class Percussion I	1
Class Strings I	1
Class Woodwinds I	1
Class (or private) piano I and II	2 or 4
Class Voice I and II	2
Fundamentals of Conducting	2
Applied Instruction (major instrument)	14
Music Electives	10 or 12
Choral Conducting	
Instrumental Conducting	
French Diction	
German Diction	
Italian Diction	
Class Brass II	
Class Percussion II	
Class Strings II	
Class Woodwinds II	
Music Education Electives	
Music History Elective	
Music Theory Electives	
Additional Applied Instruction	
Ensembles	

Professional Education — 27 hrs.

Educational Psychology	3
Audio-Visual Education	3
History and Phil. of American Education	3
Elementary Methods	2

Secondary Methods	2
Professional Practicum	2
Student Teaching	12

COURSE DESCRIPTIONS

Service Courses

EL 211 MUSIC FOR THE ELEMENTARY GRADES 2 cr.
Geared for elementary education students. Includes basic ideas for understanding, development, and confidence for future classroom teachers and their pupils in areas of music education.

EL 212 TEACHING OF MUSIC IN THE ELEMENTARY GRADES 3 cr.
Prerequisite: EL 211.
Continuation of skills and understandings as developed in EL 211, with emphasis on methods and materials for upper grades. Additional opportunities for growth in music reading and part singing are provided. Correlation of music with other areas.

MU 101 INTRODUCTION TO MUSIC 3 cr.
Course presumes no technical background, but does utilize the varied musical experiences of each individual to help him extend his interest as far as possible. Attendance at various concerts of college organizations, cultural life events, and visiting artist concerts are required; to augment listening experiences of student.

MU 102 MUSIC FOR THE NON-MAJOR 3 cr.
Prerequisite: MU 101 or permission of instructor.
A sequel to MU 101. Course content will vary to cover a wide range of musical interests.

Music Theory and Composition

MU 111 SIGHT SINGING I 2 cr.
Designed to develop student's skill at interpreting written music by use of his own voice.

MU 112 SIGHT SINGING II 2 cr.
Prerequisite: MU 111.
Continuing development of skills in areas of Sight Singing I.

MU 113 EAR TRAINING I 1 cr.
Develops dictation skills and notation in following areas: primary harmonies in all inversions, and melodic dictation with implied and actual harmonies.

MU 114 EAR TRAINING II 1 cr.
Prerequisite: MU 113.
Continuing development of dictational and notational skills of Ear Training I.

MU 115 THEORY I 3 cr.

MU 116 THEORY II 3 cr.

MU 215 THEORY III 3 cr.
(Three consecutive semesters.)
Study of compositional devices of 18th and 19th centuries. Emphasis upon melodic, harmonic, rhythmic, and formal structures, with occasional reference to contrapuntal implications.

MU 216 THEORY IV 3 cr.
Prerequisites: MU 115, 116, 215.
Study of compositional devices of latter half of 19th century and first half of 20th century.

MU 217 KEYBOARD HARMONY I 1 cr.
Prerequisite: Nominal facility at keyboard.
Designed to develop keyboard skills in student, so he may realize and produce in sound basic harmonic progressions.

MU 218 KEYBOARD HARMONY II 1 cr.
Prerequisite: MU 217.
Continuation of Keyboard Harmony I, involving chromatic harmony and more complex progressions.

MU 304 FORM AND ANALYSIS I 2 cr.
Prerequisite: MU 216.
Thorough study of smaller forms of music.

MU 305 FORM AND ANALYSIS II 2 cr.
Prerequisite: MU 304.
Thorough study of larger forms of music.

MU 306 COUNTERPOINT I 2 cr.
Prerequisite: MU 216.
After study and analysis of style of 16th Century contrapuntal writing, student will do original writing using techniques and devices of period. As time permits, same approach will be made to explore style of 17th and 18th Century composers.

MU 307 COUNTERPOINT II 2 cr.
Prerequisite: MU 306.
Continuation of study, analysis, and restricted writing of 17th and 18th Century composers. Consideration given to free contrapuntal techniques used by later composers.

MU 308 FUGUE AND CANON 2 cr.
Prerequisite: MU 306.
Application of contrapuntal techniques within these two specific forms through analysis, assigned exercises, and creative writing.

MU 309 ORCHESTRATION I 2 cr.
Prerequisite: MU 216.
All instruments of orchestra are studied from viewpoint of their contribution to total sound of ensemble. Ranges and timbres are considered, as well as actual arranging of selected music.

MU 310 ORCHESTRATION II 2 cr.
Prerequisite MU 309.
A continuation of Orchestration I.

MU 315 THEORY V 3 cr.
Prerequisite: MU 216.
Many of harmonic idioms of past half century are considered, such as: comparative analysis of dissonance; polytonality; polyrhythms; atonalism and 12-ton system; and microtonalism. Original writing in these styles required.

MU 411 COMPOSITION I 2 cr.
Prerequisite: MU 216.
Instruction in Composition I is, of necessity, highly individualized. Compositional devices studied through analysis of works by major composers. Students write original works.

MU 412 COMPOSITION II 2 cr.
Prerequisite: MU 411.
Continuation of Composition I. Outstanding works will be programmed by University organizations.

Music History and Literature

MU 220 MUSIC LITERATURE I 2 cr.
Major works studied and analyzed as to form, style, and historical placement.

MU 221 MUSIC LITERATURE II 2 cr.
Continuation of Music Literature I.

MU 301 HISTORY OF MUSIC I 3 cr.
Study of development of music, from ancient Greek and Roman cultures through Baroque period. Although approach is historical one, considerable analytic listening is required.

MU 302 HISTORY OF MUSIC II 3 cr.
Starting in 18th Century, with Haydn and Mozart, History of Music II is study of the development of music to present. Analytic listening required through all available sources.

MU 316, 317 LITERATURE OF THE MAJOR I, II 2 cr. each
Offered as Independent Study. See MU 482.

MU 320 MUSIC OF THE ANCIENT WORLD 3 cr.
Prerequisites: MU 316, 317.
Concentrated study of music from early Greeks up to Middle Ages.

MU 321 MUSIC OF THE MIDDLE AGES 3 cr.
Prerequisites: MU 316, 317.
Starting with the Jongleurs, Troubadors, and Trouveres of Early Middle Ages, course deals with literature of music through English and Burgundian Schools at close of the Middle Ages.

MU 322 RENAISSANCE MUSIC 3 cr.
Prerequisites: MU 316, 317.
Beginning with Ockeghem and ending with Palestrina and his contemporaries, music literature of this age is carefully and thoroughly studied.

MU 323 THE BAROQUE ERA 3 cr.
Prerequisites: MU 301, 302.
Extends from Monteverdi through Bach and Handel, and considers vocal and instrumental forms, styles, and practices of era.

MU 324 EIGHTEENTH CENTURY MUSIC 3 cr.
Prerequisites: MU 301, 302.
Although Mozart and Haydn comprise greater portion of 18th Century music, Rococo Period involves D. Scarlatti and C.P.E. Bach as well.

MU 325 THE EARLY ROMANTIC PERIOD 3 cr.
Prerequisites: MU 301, 302.
Beethoven, Schubert, Rossini, Weber, Mendelssohn, Berlioz, Schumann, and Chopin are major composers to be studied in Early Romantic Period.

MU 326 THE LATE ROMANTIC PERIOD 3 cr.
Prerequisites: MU 301, 302.
Wagner, Verdi, Glinka, Bruckner, Meyerbeer, Liszt, Gounod, Brahms, Offenbach, Smetana, J. Strauss, Grieg, Bizet, Moussorgsky, Saint-Saens, Tschaikowsky, Massenet, Franck, Borodin, Rimski-Korsakoff, Wolf, R. Strauss, Mahler, Faure, Puccini, Dvorak, Mac Dowell, and Elgar are major composers of this study.

MU 351 ITALIAN/ENGLISH DICTION 2 cr.

MU 353 FRENCH DICTION 2 cr.

MU 354 GERMAN DICTION 2 cr.

MU 420 CONTEMPORARY MUSIC 3 cr.
Prerequisites: MU 301, 302.
Beginning with Debussy, Ravel and other impressionists, touching on Schoenberg, Stravinsky, Webern, Honneger, Milhaud, et. al. Contemporary Music ends with today and tomorrow. Various trends, styles, techniques are noted: judgments are attempted on more experimental forms; limited predictions of trends are ventured.

MU 421 AMERICAN MUSIC 3 cr.
Prerequisites: MU 301, 302.
A study of history and literature of music in America from 1600 to present day.

Music Education

MU 311 FUNDAMENTALS OF CONDUCTING 2 cr.
Emphasis placed on fundamental physical skills of conducting process; various beat patterns are mastered, and elementary score reading and interpretation considered.

MU 312 CHORAL CONDUCTING 2 cr.
Prerequisite: MU 311.
Provides opportunity for student to apply his basic conducting techniques to choral music. Each student conducts rest of class in many of standard choral works of the literature. Includes survey of suitable literature, organizational problems, voice testing, rehearsal techniques, program building, interpretation, and diction.

MU 313 INSTRUMENTAL CONDUCTING 2 cr.
Prerequisite: MU 311.
Provides student opportunity to apply his basic conducting skills to various instrumental ensembles. Includes survey of suitable literature, organizational problems, audition procedures, rehearsal techniques, program building, and interpretation.

MU 331 ELEMENTARY METHODS 2 cr.
Includes analytical study of texts, recordings, equipment, instruments, and other materials suitable to musical development of elementary pupils, proper treatment of child voice; selection, use, and teaching of rote songs; rhythmic activities and development, music reading; part singing; planning and organization, guided observations; and evaluation techniques.

MU 333 SECONDARY METHODS 2 cr.
Includes General Music Class, choral organizations, changing voice, techniques of instruction, including team teaching and programmed learning, high school theory courses, high school music literature courses, scheduling, administrative problems, curriculum development, evaluation of materials and equipment, evaluative techniques, and guided observation.

MU 334 INSTRUMENTAL METHODS 2 cr.
Treats understandings, techniques, equipment, and materials necessary to develop an effective instrumental music program in public schools. Demonstrations and laboratory work designed to give student competencies needed to meet successfully various teaching situations in instrumental music from grades through high school. Guided observations required.

MU 401 CHORAL SCORE READING 2 cr.
Prerequisites: MU 216, 312.

MU 402 INSTRUMENTAL SCORE READING 2 cr.
Prerequisites: MU 216, 313.

MU 405 PIANO PEDAGOGY 2 cr.
Prerequisites: Junior Standing in Piano, and a piano major or minor.
Survey of current and significant past developments in teaching of piano, both privately and in small and large classes. The various piano methods are analyzed, compared, criticized, and adapted to each individual's use.

MU 406 VOICE PEDAGOGY 2 cr.
Prerequisites: A voice major or minor, and permission of the instructor.
Survey of current and past developments in teaching of voice, both privately and in small and large classes. The various vocal methods are analyzed, compared, criticized, and adapted to each individual's use.

MU 407 MASTER CLASS IN ORGAN 2 cr.
Prerequisites: For organ majors only, with instructor's permission. From time to time the organ instructor will accept from four to eight organ majors for this course. Every student observes every other student's instruction, and various techniques of teaching organ are demonstrated.

MU 408 MARCHING BAND TECHNIQUES 2 cr.
Considers building a band show; alignment of ranks and files; development of a standard pace of 6 to 5 and 8 to 5; selection of music; instrumentation; techniques of developing morale; and fundamentals of uniform design.

ED 421 STUDENT TEACHING 6 cr.
Experience in teaching music at the elementary level; coordination and visitation by a University faculty member with daily supervision by a cooperating classroom teacher.

ED 441 STUDENT TEACHING 6 cr.
Experience in teaching music at the secondary level; coordination and visitation by a University faculty member with daily supervision by a cooperating classroom teacher.

ED 442 PROFESSIONAL PRACTICUM 2 cr.
An experience which parallels the student teaching and which includes such activities as professional readings, discussions, observations and the accumulation and organization of teaching materials.

MU 482 INDEPENDENT STUDY 1-6 cr.
Opportunity to pursue special interests beyond the scope of regular

class offerings. Permission of instructor and approval of department chairperson are required.

Class Instruction

The following courses are designed to acquaint the student with basic skills in each particular area.

MU 151	Class Voice I	1 cr.
MU 152	Class Voice II	1 cr.
MU 153	Class Piano I	1 cr.
MU 154	Class Piano II	1 cr.
MU 155	Class Strings I	1 cr.
MU 156	Class Strings II	1 cr.
MU 157	Class Percussion I	1 cr.
MU 158	Class Percussion II	1 cr.
MU 159	Class Brass I	1 cr.
MU 160	Class Brass II	1 cr.
MU 161	Class Woodwinds I	1 cr.
MU 162	Class Woodwinds II	1 cr.
MU 353	French Diction	2 cr.
MU 354	German Diction	2 cr.

APPLIED MUSIC

Private Instruction

Private instruction is available in the following performance areas:

Piano	Violin	String Bass	Oboe	Tuba	Baritone Horn
Organ	Viola	Flute	Bassoon	Percussion	Saxophone
Voice	Cello	Clarinet	Trumpet	Trombone	French Horn

Ensembles

Each ensemble is elected for one credit.

MU 120	Brass Ensemble	MU 129	University Symphony Orchestra
MU 121	Chamber Ensembles		
MU 122	University Chorale	MU 130	String Ensemble
MU 123	Symphony Band	MU 131	University Wind Ensemble
MU 124	Glee Club		
MU 125	Marching Band	MU 132	Women's Chorus
MU 126	Music Theater	MU 133	Woodwind Ensemble
MU 127	Percussion Ensemble	MU 134	Oratorio Chorus
MU 128	University Chamber Orchestra		

Graduate School

JOSEPH M. GALLANAR, DEAN

Indiana University of Pennsylvania offers programs leading to graduate degrees. The primary purposes of the graduate programs are to encourage excellence in scholarship, to provide for depth in the student's special field, and to stimulate enthusiasm for continued cultural and professional growth.

Graduate credit is issued to students who have been admitted to the Graduate School and who are registered in graduate courses (those numbered 500 or above).

The graduate programs and courses are listed in the Graduate School Bulletin, which may be obtained from the Dean of the Graduate School.

The School of Health Services

JOHN CHELLMAN, DEAN

The School of Health Services provides an opportunity to educate personnel needed in various health disciplines. The School offers professional curricula leading to appropriate baccalaureate degrees for men and women in health and physical education; respiratory therapy; medical technology; nursing; and safety management. Indiana University of Pennsylvania is affiliated with approved schools and hospitals for specialized training in all programs of the allied health professions and nursing.

At present, the School of Health Services includes five departments:

1. Allied Health Professions
2. Athletic
3. Health and Physical Education
4. Nursing
5. Safety Sciences

In addition, the School of Health Services offers advisement for an academic concentration in Hospital and Health Care Administration.

ACADEMIC CONCENTRATION IN HOSPITAL AND HEALTH CARE ADMINISTRATION

Hospital and Health Care Administration Today

The hospital administrator's unique contribution to the health of the public is his expertise in the organization of the many components of the health care delivery system in general and the hospital in particular. The hospital is clearly one of the most complex institutions in our society. The hospital administrator occupies a difficult management position and an important one if the public is to be properly served.

There are over four million individuals involved in providing health services to the American public. Approximately half of these are employed by hospitals.

Hospital administrators are in demand in a number of organizations including the following: general hospitals, extended-care facilities, health maintenance organizations, nursing homes, psychiatric hospitals, rehabilitation institu-

tions, group practice plans, outpatient clinics, welfare departments, private insurance programs, Blue Cross and Blue Shield Plans, hospital facility planning agencies, comprehensive health planning agencies, health departments, federal health agencies, health and hospital associations, graduate educational programs and research institutes.

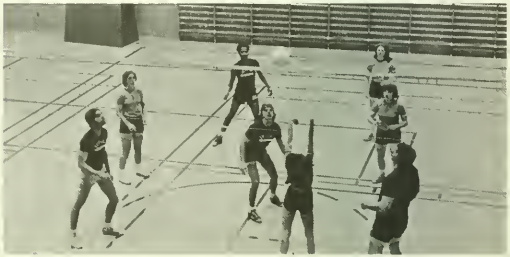
Graduate Programs

Today, thirty-eight universities in the United States, Canada and Puerto Rico offer graduate degrees in health and hospital administration. A baccalaureate degree from an accredited college or university is the primary prerequisite for admission. Graduate programs leading to a master's degree in health and hospital administration consist of one to two years of full-time academic study and may include a period of up to one year of administrative residency in a hospital or other health-related organization under the preceptorship of an administrator. Courses in hospital administration remain the foundation of the curricula.

Programs may be found in separate university departments or in such professional schools as medicine, public health, or business.

Undergraduate Preparation

Although entrance requirements for graduate study vary, most institutions prefer that the undergraduate program be a liberal curriculum for the first two years; that the student select a major curriculum which offers the highest degree of motivation; and to include courses in accounting, biology, business administration, economics, psychology, sociology, statistics, college algebra, and calculus. It is with this general concept of the curriculum that such students should be processed through their school, department, and major program. As their particular academic interests and abilities develop during the junior and senior years in regard to graduate studies in hospital and health care administration, specific advisement as to the admission criteria for any of the thirty-eight institutions offering graduate work will be available through the office of the Dean, School of Health Services. Bulletins, admission requirements, costs, financial aid, and general information regarding institutional curricular emphases and sources of career information are available. There need be no change in the student's school, department or major curriculum designation. Students interested in this concentration should inform their adviser in order that proper courses may be scheduled.



ALLIED HEALTH PROFESSIONS DEPARTMENT

ALLAN T. ANDREW, CHAIRPERSON

RESPIRATORY THERAPY

Respiratory Therapists assist physicians in the care of patients who have respiratory system problems or illness that relates to breathing. Their assistance includes administering gaseous drugs and executing therapeutic procedures. Included are the operation and maintenance of specialized equipment.

The program leads to the degree, Bachelor of Science in Respiratory Therapy. Presented jointly by Indiana University of Pennsylvania and the Western Pennsylvania Hospital (Pittsburgh), the program offers intensive theoretical and applied knowledge to produce highly-skilled graduates who are prepared to enter the profession as therapists or instructors.

Two academic years of University studies, followed by two academic years of hospital studies and clinical practice constitute the program. Beginning with the freshman class of '76, students must maintain a QPA of 2.0 in Natural Sciences and Mathematics to qualify for admission into the clinical years in Respiratory Therapy. While at the University, students are required to complete the following courses or approved substitutes, which give a total of 64 credits:

Biology		
BI 105	Cell Biology	4 cr.
BI 241	General Microbiology	3 cr.
BI 151	Physiology	3 cr.
Chemistry		
CH 101-102	Chemistry I and II for Health Professions	8 cr.
Health and Physical Education		
*HP	Two activity courses	2 cr.
HP 221	Human Anatomy	3 cr.
Humanities		
AR 101	Introduction to Art	3 cr.
	or	
EN 103	Introduction to Theater	3 cr.
	or	
MU 101	Introduction to Music	3 cr.
EN 101, 102 & 201	English I, II, & III	10 cr.
-----	Approved Elective	3 cr.
*Or ROTC Option		
Social Sciences		
-----	Approved Electives	12 cr.
Other		
EP 302	Ed. Psychology	3 cr.
	or	
LR 301	A-V Education	3 cr.
MA 101	Fundamentals of Math	3 cr.
BM 201	Personnel Management	3 cr.
PY 151	Medical Physics Lecture	3 cr.
PY 151	Medical Physics Lab	1 cr.

In addition to clinical practice each semester during the junior and senior years and research projects during the

senior year, students, while at the hospital, study the following subjects:

RT 327	Pharmacology	2 cr.
RT 328	Intro to Respiratory Therapy	4 cr.
RT 329 & 334	Respiratory Therapy Equipment I and II	8 cr.
RT 330	Cardiopulmonary Evaluation	3 cr.
RT 335	Nursing Arts	3 cr.
RT 336	Cardiopulmonary Evaluation	4 cr.
RT 427	Special Topics in Respiratory Therapy	4 cr.
RT 428	Ethics and Administration	2 cr.
RT 429	Respiratory Facilities Design and Function	4 cr.
RT 434	Respiratory Therapy Seminar	3 cr.
RT 436	Respiratory Therapy Teaching	3 cr.
RT 326, 333, 426, 433	Respiratory Therapy Clinical Practice	22 cr.

Sixty-two credits are awarded for the clinical studies.

MEDICAL TECHNOLOGY

Medical Technologists are highly-skilled members of the medical care team. They perform a wide range of tests and studies, whose results aid physicians in diagnosis and treatment. The program of studies presented jointly by Indiana University and approved hospitals prepares students to enter the profession.

Upon completion of the four-year program, the degree of Bachelor of Science in Medical Technology is granted. The first three years are devoted to University studies. The University-wide General Education obligations may be varied by election of three credits in Humanities and 12 credits in Social Science.

Required are at least 16 credits in Biology, 24 credits in Chemistry, a course in Mathematics, and two semesters of Physics, as follows:

Mathematics		
MA 001	Elementary Functions or higher level substitute	3 cr.
Chemistry		
CH 111-112	General Chemistry I and II	8 cr.
CH 231-232	Organic Chemistry I and II	8 cr.
CH 323	Analytical Methods	4 cr.
CH 351	Biochemistry	4 cr.
Biology		
BI 105	Cell Biology	4 cr.
BI 120	Animal Biology	5 cr.
BI 361	Microbiology	3 cr.
Biology Electives		4 cr.
Physics		
PY 111-112	Physics I and II	6 cr.
PY 121-122	Physics I and II Laboratory	2 cr.
NOTE: Biology courses frequently elected:		
BI 281	Parasitology	3 cr.

BI 381	Mycology	3 cr.
BI 352	Comparative Animal Physiology	3 cr.
BI 285	Biotechniques	3 cr.
BI 263	Genetics	3 cr.
BI 441	General Physiology	3 cr.

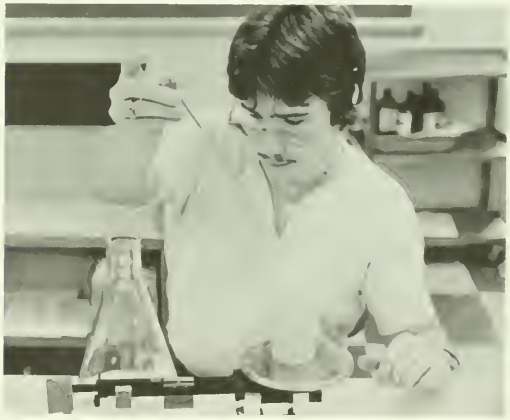
Following the three academic years of University work, each student devotes 12 months to studies at an approved hospital School of Medical Technology to which she/he gains admission on a competitive basis. Indiana maintains short- and long-term affiliations with selected hospital schools. The Latrobe Area Hospital School of Medical Technology provides its program only in conjunction with Indiana.

The Department provides student counseling and maintains liaison with hospital schools. However, since not all students are equally successful in academic studies and since the hospital schools select and admit the students to their programs using various criteria, Indiana cannot guarantee admission to hospital school studies (also known as the clinical year).

Thirty-two semester hours of credit are earned at the hospital School of Medical Technology. In addition to integrated clinical practice, the following subjects are typically studied:

Urinalysis	Histology
Hematology and Coagulation	Cytology
Radio-Isotopes	Bacteriology
Clinical Chemistry and Toxicology	Parasitology and Mycology
Blood Bank	Serology
	Virology

Completion of college and clinical training is followed by an examination conducted by the Registry of Medical Technology of the American Society of Clinical Pathologists (ASCP). Successful passage of this examination certifies a student as an M.T. (Medical Technologist), signifying that she/he is a professionally qualified laboratory technologist.



ATHLETIC DEPARTMENT

HERMAN L. SLEDZIK, DIRECTOR: BECK, BETTS, BLACKSMITH, CAMPISANO, CELTNIEKS, DAVIS, GODLASKY, HORNFECK, JOHNSON, LETSO, LISCINSKY, MILL, MOORE, NEAL, PANAIA, SLONIGER, SUTTON

RUTH PODBIELSKI, ASSOCIATE DIRECTOR: BARTHELEMY, ELTZ, KORAB, NESBITT.

DEPARTMENT OF HEALTH AND PHYSICAL EDUCATION

D. SHELBY BRIGHTWELL, CHAIRPERSON; AIERSTOCK, BARTHELEMY, BECK, BLACKSMITH, CELTNIEKS, DAKAK, DAVIS, DICKIE, ELTZ, GODLASKY, HORNFECK, JOHNSON, KAYLOR, KORAB, LEPLEY, LISCINSKY, LOMMOCK, LUCAS, MC CAULIFF, MILEFF, MILL, MOORE, NEAL, NESBITT, PODBIELSKI, SLEDZIK, SLONIGER, SUTTON, TUCKER

The Department of Health and Physical Education provides the following services in the University program: (1) instruction in health and various physical activities is provided thus serving part of the University's General Education requirement and leadership in a wide-ranging recreational program is supplied; (2) the degree of Bachelor of Science in Education is offered with a major in Health and Physical Education; and (3) Certification in Education for Safe Living is made available.

CURRICULA

Required Program

University students not in the ROTC program are required to complete two credits of physical education and two credits in HP 101, Personal and Community Health. Any two activity courses offered for General Education physical education credit may be elected to fulfill the physical education requirement. (Veterans are given four credits toward the above requirement. Verification of service must be established.) All such courses are coeducational. In addition, a few select courses for men and women are offered.

The requirement may be altered after consultation with the Chairperson of the Health and Physical Education Department, who will act upon the recommendation of the family physician and/or University physician and the Dean, School of Health Services.

Regulation uniforms are required for most curricular activities and may be purchased at Zink Hall and the Memorial Field House.

B.S. in Education (Health and Physical Education)

Requirements for the degree of Bachelor of Science in Education with a major in Health and Physical Education include the University's General Education requirement, Professional Education requirements, and the Health and Physical Education core requirement (36 credits). Upon completion of the degree program, the student is qualified for a Pennsylvania Provisional College Certificate in Health and Physical Education, issued by the Pennsylvania Department of Education in Harrisburg, Pennsylvania. This certificate is valid for teaching health and physical education in grades K through 12 in the public schools

of Pennsylvania. Major students may utilize free electives to specialize in the areas of elementary, secondary, adaptives, recreation, health, dance, or athletic coaching.

Candidates for the degree program in Health and Physical Education must demonstrate acceptable cognitive and psychomotor qualifications, as well as desirable character and personality traits. The professional program seeks to foster those qualities of individual character and competence that are inherent in personal and professional maturity. These competencies are evaluated at the end of the sophomore year. The student is either granted Advanced Standing in the Department or restricted in his scheduling of advanced courses for not less than one probationary semester. Continuance in the major program is based upon the attainment of Department Advanced Standing.

GENERAL EDUCATION – See catalog under General Education

PROFESSIONAL THEORY – Major students in Health and Physical Education must earn credits (26) in the following courses: HP 142; HP 221; HP 326; HP 342; HP 344; HP 345; HP 404; HP 441; HP 442.

PROFESSIONAL TECHNIQUES – Students are required ten (10) credits from among the following courses: HP 200 – 208; HP 300 – 307; HP 263 or HP 264 or HP 265. (Two laboratory hours and one lecture hour per week) One-half (.5) credit courses meet for one-half of the semester only.

PROFESSIONAL EDUCATION – The following are required: EP 302; FE 302; HP 318; HP 321; HP 341; HP 346; ED 421; ED 441; ED 442.

COURSE DESCRIPTIONS

Meeting the General Education Requirement

HP 101 PERSONAL AND COMMUNITY HEALTH 2 cr.
Understanding scientific approach to personal health and development of desirable attitudes and practices in all areas of personal health constitute major part of the course. Cause, prevention, and control of various diseases are also considered. (2 lecture hrs.)

Co-Educational General Education Activity Courses

Unless otherwise noted, the following courses provide opportunities for the learning of basic fundamentals and techniques of the activities. Specific courses may be offered in the fall, spring, or both semesters. (Two lab hours per week.)

HP 110	BEGINNING SWIMMING	1 cr
HP 111	ARCHERY – DANCE	1 cr
HP 112	ARCHERY – FENCING	1 cr
HP 113	ARCHERY/INTERMEDIATE SWIMMING	1 cr.
HP 114	BADMINTON – FENCING	1 cr.
HP 115	BADMINTON – INTERMEDIATE SWIMMING	1 cr.
HP 116	BADMINTON – VOLLEYBALL	1 cr.
HP 117	FITNESS – INTERMEDIATE SWIMMING	1 cr.
HP 118	FITNESS – VOLLEYBALL	1 cr.
HP 119	GOLF – BOWLING	1 cr.
HP 120	TENNIS – INTERMEDIATE SWIMMING	1 cr.
HP 121	INTERMEDIATE SWIMMING – VOLLEYBALL	1 cr.
HP 122	CONTEMPORARY (MODERN) DANCE	1 cr.
HP 123	FOLK AND SQUARE DANCE	1 cr.
HP 124	TUMBLING	1 cr.

HP 125	HORSEBACK RIDING	1 cr.
HP 126	RESISTIVE EXERCISES	1 cr.
HP 127	FENCING	1 cr.
HP 128	GOLF	1 cr.
HP 129	BADMINTON/TENNIS	1 cr.
HP 134	BOWLING	1 cr.
HP 137	GYMNASTICS	1 cr.
HP 138	FIELD HOCKEY/BASKETBALL	1 cr.
HP 144	RHYTHMS AND MOVEMENT (Music majors only)	1 cr.
HP 145	TENNIS	1 cr.
HP 146	TENNIS/FENCING	1 cr.
*HP 150	ADAPTED PHYSICAL ACTIVITY I	1 cr.
*HP 151	ADAPTED PHYSICAL ACTIVITY II	1 cr.
HP 171	WRESTLING/SOCCER	1 cr.
HP 172	BASKETBALL/SOFTBALL	1 cr.
**HP 260	SENIOR LIFESAVING (Prerequisite: advanced swimmer)	1 cr.
**HP 261	WATER SAFETY INSTRUCTOR (Prerequisite: HP 260)	1 cr.
**HP 262	SCUBA (Prerequisite: HP 260)	1 cr.
**HP 266	BASIC SMALL CRAFT (Prerequisite: intermediate swimmer)	1 cr.

*All students who are unable to complete the two-credit activity requirement must register for this course to obtain special class assignment or waiver of all or partial credit requirement. Such activity programs are designed for specific individuals who are medically restricted from participation in regular activities. Each program will be both therapeutic and recreational and subject to the approval of the student's personal physician.

**These courses are also included in the annual Aquatic School offered each summer. They require the prerequisite courses listed beside them.

Health and Physical Education Majors

HP 142 FOUNDATIONS OF HEALTH, PHYSICAL EDUCATION, AND RECREATION 3 cr.
Scientific principles, philosophical considerations, and career opportunities in professions of health, physical education, and recreation. (3 lecture hrs.)

HP 200 FUNDAMENTALS OF PHYSICAL ACTIVITY 1 cr.
Indentification of problem areas in basic neuromuscular activities with subsequent prescriptive programs on an individual basis; presentation of circuit and interval training programs; weight training, and isometrics.

HP 201 ARCHERY/BADMINTON/BOWLING 1 cr.
Skill progressions and analyses, in combination with opportunity to progress individually in skill competency in each activity. Methods and materials emphasized.

HP 202 BASEBALL .5 cr.
Basic skills, position play and team participation in baseball. Baseball theory and strategy.

HP 203 BASKETBALL .5 cr.
Team tactics, drill patterns, conditioning programs, and teaching/coaching methods.

HP 204 FIELD HOCKEY .5 cr.
Skill progressions and analyses, in combination with opportunity to progress indivudally in skill competency. Methods and materials emphasized.

HP 205 RHYTHMS AND MOVEMENT 1 cr.
Development of basic movement techniques through rhythmic experiences, knowledge of music notation and terminology, and methods in creative presentation.

HP 206 SOFTBALL .5 cr.
Skill progressions and analyses, in combination with opportunity to

progress individually in skill competency. Methods and materials emphasized.

HP 207 TENNIS .5 cr.
Skill progressions and analyses, in combination with opportunity to progress individually in skill competency. Methods and materials emphasized.

HP 208 SOCCER .5 cr.
Team tactics, drill patterns, teaching and coaching techniques.

HP 221 HUMAN STRUCTURE AND FUNCTION 3 cr.
Anatomical organization of human body, surveyed in sufficient depth to prepare students for physiology, kinesiology, and adaptive physical education. (3 lecture hrs.)

HP 263 AQUATICS I 1 cr.
Basic performance techniques in swimming strokes, taught with special emphasis on teaching methodology.

HP 264 AQUATICS II 1 cr.
Swimming and rescue skills necessary to complete American Red Cross Senior Lifesaving Course. Emphasis placed upon a broad range of other aquatic experiences and teaching strategies.

HP 265 AQUATICS III 1 cr.
Advanced swimming skills and techniques.

HP 300 FOLK AND SQUARE DANCE .5 cr.
Skill progressions and analyses, in combination with opportunity to progress individually in skill competency in each activity. The role of folk and square dance in the physical education programs of all levels considered. Emphasis on methods and materials.

HP 301 MODERN DANCE .5 cr.
Prerequisite: HP 205, Rhythms and Movement
Basic course in the dance, introducing student to experiences in development of dance as creative art and an educational medium.

HP 302 GYMNASTICS 1 cr.
Conditioning exercises, participation in all phases of gymnastics, including tumbling, and the coaching of the sport.

HP 303 FOOTBALL .5 cr.
Fundamentals of position play, patterns of offense and defense, individual skills, and team organization in football.

HP 304 GOLF .5 cr.
Skill progressions and analyses, in combination with opportunity to progress individually in skill competency. Methods and materials emphasized.

HP 305 TRACK AND FIELD .5 cr.
Basic movement patterns of running, jumping, and throwing; various training programs of track and field; rules and regulations. The students' abilities and skills are developed in order that they may be better able to teach and/or coach track and field.

HP 306 VOLLEYBALL .5 cr.
Skill progressions and analyses, in combination with opportunity to progress individually in skill competency. Methods and materials emphasized.

HP 307 WRESTLING .5 cr.
Basic skills, moves and holds used in college and high school wrestling.

HP 311 ADVANCED FIELD HOCKEY/VOLLEYBALL 2 cr.
Prerequisite: HP 204, 306
Advanced techniques and game strategy, with opportunities for individual skill progression. Methods and materials are presented from aspect of coaching responsibilities in these activities. (1 lecture & 2 laboratory hrs.)

HP 312 ADVANCED BASKETBALL/SOFTBALL 2 cr.
Prerequisite: HP 203, 206
Advanced techniques and game strategy, with opportunities for individual skill progression. Methods and materials are presented from aspect of coaching responsibilities in these activities. (1 lecture & 2 laboratory hrs.)

HP 314 ADVANCED MODERN DANCE 2 cr.
Prerequisite: Previous dance course or department acceptance of experience.
Advanced techniques of performance and choreography. Theory and composition form an integral part of course content. (1 lecture & 2 laboratory hrs.)

HP 316 VOLLEYBALL OFFICIATING 1 cr.
Prerequisite: HP 306
Officiating techniques and responsibilities in volleyball. Opportunities for officiating experience and qualification for professional ratings. (1 lecture & 2 laboratory hours)

HP 317 BASKETBALL OFFICIATING 1 cr.
Prerequisite: HP 203
Officiating techniques and responsibilities in basketball. Opportunities for officiating experience and qualification for professional ratings. (1 lecture & 2 laboratory hours)

HP 318 ACTIVITY INTERNSHIP I 1 cr.
Students teach as assistants to a faculty member in two different activities in physical education (general education). Emphasis on unit development, class management, leadership skills, and evaluation. (1 lecture & 2 laboratory hrs.)

HP 319 ACTIVITY INTERNSHIP II 1-3 cr.
Prerequisites: HP 318, Advanced Standing, Department Approval
Students may request a teaching/supervisory assignment in specific professional areas such as adaptives, recreation, dance, elementary, secondary, and coaching. Assignments must be approved by department chairperson. (1 lecture & 2 laboratory hrs. — 1 & 2 cr.; 3 lecture hrs. — 3 cr.)

HP 321 METHODS IN ELEMENTARY PHYSICAL EDUCATION 3 cr.
Study and application of theories of movement, self-testing activities, rhythms, relays, games, gymnastics suitable for elementary school child. Observation, materials and methods of teaching and opportunities for intern teaching provided. (3 lecture hrs.)

HP 326 HEALTH SCIENCE INSTRUCTION 3 cr.
Health curriculum — K—12, Methods, and Media of Instruction in Health Science. (3 lecture hrs.)

HP 333 PSYCHOLOGY OF SPORT 2 cr.
The goals of athletics in schools and communities; principles and responsibilities of the coach; current problems. (2 lecture hrs.)

HP 334 SPORTS OFFICIATING 1 cr.
Techniques of officiating and rules interpretation. Practice in actual officiating required in several varsity sports. (1 lecture & 2 laboratory hrs.)

HP 336 ORGANIZATION AND ADMINISTRATION OF RECREATION 2 cr.
History, theory, and philosophy of recreation; importance of play in modern world, trends in recreation, problems encountered in organizing community school programs and principles of leadership. (2 lecture hrs.)

HP 341 EVALUATION IN HEALTH AND PHYSICAL EDUCATION 3 cr.
Evaluation theory, instructional objectives, and cognitive test construction; technical and practical consideration in testing, and interpretation of test results. (3 lecture hrs.)

HP 342 BIOMECHANICS 3 cr.
Prerequisite: HP 221
Structural considerations of human movement and analyses of motor performances. (3 lecture hrs.)

HP 343 PHYSIOLOGY OF EXERCISE 2 cr.
Prerequisite: HP 221
Physiological effects of exercise on humans. Major factors of diet, conditioning, physical fitness, maximum performance level, and fatigue are considered. (2 lecture hrs.)

HP 344 ADAPTED PHYSICAL EDUCATION 3 cr.
Prerequisite: HP 342

Recognition of structural deviations, corrective exercises, and physical education programs for a wide range of handicaps. (2 lecture hrs.)

HP 345 BASIC SPORTS MEDICINE 2 cr.
Prerequisite: HP 221
Prevention and care of accidents in sports activities. Significance of medical examination, conditioning exercise and sound health practices discussed. Laboratory work includes taping, bandaging, use of physiotherapy equipment, massage and supervised training room experience. (2 lecture hrs.)

HP 346 EMERGENCY HEALTH CARE 1 cr.
American Red Cross Standard, Advanced and Instructor's certification, and Multi-media Instructor's certification awarded upon successful completion of this course. (2 lecture hrs.)

HP 349 DANCE REPERTOIRE I 1 cr.
Prerequisite: Department consent
Designed to permit students to be exposed to wide range of dance repertoire, original choreography and technique. (1 lecture & 2 laboratory hrs.)

HP 350 DANCE REPERTOIRE II 1 cr.
Prerequisite: HP 349
Designed to permit students to explore dance repertoire, choreography, and technique beyond HP 349. (1 lecture & 2 laboratory hrs.)

HP 404 SCHOOL HEALTH PROGRAMS 3 cr.
Organization of school health programs, relationships, and utilization of community resources. (3 lecture hrs.)

HP 405 ADMINISTRATION AND TECHNIQUES OF CAMPING 2 cr.
The growth and significance of camp movement, and understanding of camping techniques and various types of camp programs considered. Attention given to all camp activity areas. Study of outdoor education also. (2 lecture hrs.)

HP 407 ADVANCED SYNCHRONIZED SWIMMING 2 cr.
Prerequisite: Department Consent
Attention given to types of synchronized swimming and accompaniment, composition of performance routes and methods of training swimmers for synchronized swimming. (1 lecture & 2 laboratory hrs.)

HP 408 GUIDED RESEARCH PROBLEM 2 cr.
Selection and research of a problem pertinent to student interests and those of the professions of Health, Physical Education, and Recreation. Classes held on an individual and/or seminar basis. (Independent Study)

HP 432 ORGANIZATION AND ADMINISTRATION OF INTRAMURALS AND INTERSCHOLASTICS 2 cr.
History, theory, philosophy, and principles of intramural and interscholastic athletic programs. (2 lecture hrs.)

HP 433 APPLICATION OF THEORY TO MOTOR LEARNING 2 cr.
Identification of aspects of motor learning and its similarity and difference to cognitive and affective learned behavior. Characteristics of children and adolescents. Special emphasis given to the principles of psychomotor learning. (2 lecture hrs.)

HP 434 ADVANCED SOCCER WORKSHOP 1 cr.
Prerequisite: HP 208, or department acceptance of experience
Principles of attack and defense and their application in group and team play. The study of team play will be carried out, in the main, using small sided games. Those participating will be able to observe, teach, evaluate, and be evaluated. (1 lecture & 2 laboratory hrs.)

HP 441 PSYCHOSOCIAL IMPLICATIONS FOR HEALTH, PHYSICAL EDUCATION, AND RECREATION 3 cr.
A study of variables that influence human performance with emphasis on psychological and sociological research. (3 lecture hrs.)

HP 442 SEMINAR IN HEALTH, PHYSICAL EDUCATION, AND RECREATION 3 cr.
Theory and philosophy of Health, Physical Education, and Recreation, current issues and problems; innovative and creative programs, (3 lecture hrs.)

Certification in Education for Safe Living

A student must complete twelve (12) credits in Safety Education in order to meet state certification. The only course that is required is HP 252, while the remaining nine (9) credits can be selected from the following courses. A student must include Education for Safe Living on the application for teaching certification prior to graduation. For students who have already graduated, contact the office of the Dean, School of Health Services, for correct procedure.

HP 251 INTRODUCTION TO SAFETY EDUCATION 3 cr.
Recognition of unsafe conditions, practices, and the methods by which they may be eliminated or curtailed. Overall view of the safety problems in the home, school, highway, public places, and work environment. (3 lecture hrs.)

HP 252 DRIVER EDUCATION 3 cr.
Student should have driving ability above the average, evidence of holding a driver's license, plus at least two years of driving experience without having a major accident for which the driver is responsible. Combination of class instruction in traffic safety and driver training in actual behind-the-wheel practice in a dual control car. It prepares the student to teach driver education in high school. Three hours lecture.

HP 253 METHODS AND MATERIALS IN SAFETY EDUCATION IN THE SECONDARY SCHOOLS 3 cr.
Prerequisites: HP 251 and/or HP 252
Emphasizes the various subjects and school activities in secondary schools as well as treating it as a separate subject. (3 lecture hrs.)

HP 254 ORGANIZATION AND ADMINISTRATION OF SAFETY EDUCATION 3 cr.
Prerequisites: HP 251 and/or HP 252
Emphasizes the basic principles of organizing, administering and supervising safety education procedure in the public schools at all grade levels; encouraging student activities in the school and community. (3 lecture hrs.)

HP 255 PSYCHOLOGY OF ACCIDENT PREVENTION 3 cr.
Application of the principles of psychology to the development of safe behavior in the school, home, community, highway, and industry. The cause of accidents in relation to attitudes, habits, and behavior. (3 lecture hrs.)

Required in Elementary Education

EL 314 METHODS IN ELEMENTARY SCHOOL HEALTH AND PHYSICAL EDUCATION 2 cr.
Includes games, rhythms, movement education, tumbling, folk and square dancing and other skills suitable for elementary school child. The teaching of health in elementary school emphasized. Methods, materials and lesson planning are a part of the course.

Required in Music Education

HP 144 RHYTHM & MOVEMENT (Music Major) 1 cr.

AQUATICS SCHOOL COURSE OFFERINGS

Each summer the Department offers the annual Aquatic School for ten (10) consecutive days. Students must be 17 years of age or older and possess the necessary aquatic

prerequisites. A fee will be charged which will include room, three meals a day, use of equipment, accident insurance, transportation to and from the lake and special one-night programs. Certifications will be granted by the American Red Cross, National YMCA, Professional Association of Diving Instructors, and the American Heart Association upon completion of courses. All courses may be taken for college credit, if the student is eligible and pays the additional tuition fee. For more information, contact the Aquatic Director. *These courses are also offered during the school year.

COURSE DESCRIPTIONS, AQUATICS SCHOOL

*HP 260 SENIOR LIFESAVING 1 cr.
Prerequisite: Advanced Swimmer
Emphasizes swimming and rescue skills necessary to complete American Red Cross Senior Lifesaving Course. Certificates awarded upon successful completion of course. (2 laboratory hrs.)

*HP 261 WATER SAFETY INSTRUCTOR 1 cr.
Prerequisite: HP 260 or other proof of validated Senior Livesaving Certificate
Emphasizes teaching aspect of skills, techniques and attitudes necessary in all areas of swimming. Students successfully completing course are qualified to hold such positions as water front directors, aquatic directors, and other similar positions. (2 laboratory hrs.)

*HP 262 SCUBA DIVING 1 cr.
Prerequisite: HP 260
Designed to teach necessary skills and proper use of equipment for underwater swimming. Tanks, regulators, weights, and special equipment furnished. Student must purchase a mask, fins, and snorkle (approximately $15.00). Includes theory as well as practical work. (2 laboratory hrs.)

*HP 266 BASIC SMALLCRAFT 1 cr
Prerequisite: Intermediate Swimming Ability
Designed to introduce the use of the canoe, paddle board, and sailboat. Emphasis is placed on development of boating skills, safety rescue, and survival procedures. Red Cross smallcraft certification is granted upon successful completion of the course (2 laboratory hrs.)

HP 267 BASIC SYNCHRONIZED SWIMMING 1 cr.
Prerequisite: Intermediate Swimming Ability
Activity course designed to assist students in the development of beginning synchronized swimming skills. YMCA certification is granted upon successful completion of course requirements. (2 laboratory hrs.)

HP 270 INSTRUCTOR OF HANDICAPPED SWIMMING 1 cr.
Prerequisite: HP 261
Concerned with the learning of skills used to teach swimming to exceptional children. All handicaps are considered. This course is important not only in physical education but also for the mentally retarded, rehabilitation, education, for agency personnel, post graduate swimming education, also for YMCA's Boys Clubs, Community Programs, Private Clubs, and Industrial Programs. The Red Cross certification Instructor of Swimming for the Handicapped is granted upon successful completion of the course (2 laboratory hrs.)

HP 271 INSTRUCTOR OF SCUBA DIVING 1 cr.
Prerequisite: HP 262
Prepares instructors to teach skin and scuba diving Emphasis is placed on teaching methods, use and mechanics of equipment, safety, diving physics and physiology and advanced diving skills. Instructor of Scuba Diving certificate granted by the Professional Association of Diving Instructors upon successful completion of the course. (2 laboratory hrs.)

HP 272 INSTRUCTOR OF CANOEING 1 cr.
Prerequisite: HP 266
Concerned with learning of skills pertinent to teaching canoeing to beginners. All aspects of canoeing including paddling, repair of equipment, white water canoeing, safety, survival and teaching techniques are presented. The Red Cross certification, Canoeing Instructor is granted upon successful completion of the course. (2 laboratory hrs.)

HP 273 INSTRUCTOR OF SAILING 1 cr.
Prerequisite: HP 266
Concerned with learning of skills pertinent to teaching beginning sailing. All aspects of sailing are considered including the elements of sailing, repair of equipment, racing, safety and techniques of teaching. (2 laboratory hrs.)

HP 274 INSTRUCTOR OF INFANTS AND PRESCHOOLERS IN SWIMMING 1 cr.
Prerequisite: HP 261; Instructor's Consent
Methods course for preparation of swimming instructors in the knowledge and skills of teaching young children to swim. YMCA certifications' Instructor of the Very Young granted upon successful completion of course requirements. (2 lab hrs.)

HP 275 LIFEGUARDING 1 cr.
Prerequisite: HP 260; Instructor's Consent
A course designed for professional lifeguards which includes lifeguarding techniques for pools, fresh and salt water beaches. Red Cross certification (Pittsburgh Division) granted upon satisfactory completion of course requirements. (2 laboratory hrs.)

HP 276 COACHING SWIMMING, DIVING, AND WATER POLO 1 cr.
Prerequisite: HP 261; HP 265
A lecture-discussion methods course designed to prepare Physical Education majors for coaching of swimming, diving, and water polo. Emphasis is placed on training methods, officiating, nutrition, scientific principles, and meet and game strategy. (2 laboratory hrs.)

HP 277 ADVANCED SYNCHRONIZED SWIMMING 2 cr.
Prerequisite: HP 267
Designed to go beyond the activity nature of Basic Synchronized Swimming (HP 267). Students are involved in set design, costumes, selection of music, making props, selecting themes, and organizing a program. (1 lecture & 2 laboratory hrs.)

HP 279 SWIMMING POOL MAINTENANCE AND CHEMISTRY 2 cr.
Prerequisite: HP 264
A lecture-discussion course designed to teach fundamental water chemistry, filtration, treatment of water problems, winterization of outdoor pools and pool management. Emphasis is placed on water testing and analyzation of chemicals and bacteria. (2 lecture hrs.)

*HP 346 EMERGENCY HEALTH CARE 1 cr.
American Red Cross Standard, Advanced and Instructor's Certification, and Multi-media Instructor's certification awarded upon successful completion of this course. (2 lecture hrs.)

HP 447 CARDIAC-PULMONARY RESUSCITATION (CPR) INSTRUCTOR 1 cr.
Prerequisite: Basic CPR Certification
Study of methods and skills necessary to certify instructors of cardiopulmonary resusitation and multimedia first aid. Successful completion of requirements leads to certification by the American Heart Association and the American Red Cross. (1 lecture hr. and 1 laboratory hr.)

NURSING DEPARTMENT

MARY C. KATZBECK, CHAIRPERSON: ARENZ, BELLAK, BISS, BLACK, CUNNINGHAM, HART, HOLT, KRESAK, MURRAY, NEWCAMP, SILLAMAN, SPRENKEL, SUHRIE, THISTLETHWAITE, WRIGHT

The School of Health Services offers a curriculum leading to the degree Bachelor of Science in Nursing. Students are admitted to the nursing major as freshmen. Upon completion of the program, the graduate is prepared to write the examination for Pennsylvania licensure as a registered nurse.

The nursing curriculum has as its primary goal the development of competent practitioners of professional nursing who are liberally educated, clinically proficient, and aware of their social responsibilities as members of the health professions. The program is designed to provide a broad background in general education, coupled with the specialized knowledge and skills required for clinical competency. Additionally, the curriculum prepares the nurse to practice within the professional code of nursing ethics, to function effectively as a member of the health-care team, and to utilize scientific principles in planning and implementing health care. The objectives ot the nursing program emphasize learning of concepts of health and illness, and the provision of health care in various settings within the community.

The first three semesters are devoted mainly to general education and courses considered essential to the nursing major. The first clinical nursing courses begin in the fourth semester. The courses outlined elsewhere in the Bulletin as mandatory in English, Humanities, Health and Physical Education (or ROTC), and Mathematics are in addition to the following:

Social Sciences		
PC 101	General Psychology	3 cr.
PC 354	Developmental Psychology	3 cr.
	S. S. electives	9 cr.
Natural Sciences		
CH 101-102	Chemistry I and II	8 cr.
BI 103-104	General Biology I and II	8 cr.
	or	
BI 105	Cell Biology and	4 cr.
PY 151	Medical Physics	4 cr.
BI 150	Vertebrate Anatomy	3 cr.
BI 241	Microbiology	3 cr.
BI 151	Human Physiology	3 cr.
Other Requirements		
FN 212	Nutrition	3 cr

Clinical experiences in patient care are provided in acute care centers and other area health agencies throughout the last five semesters. Men and women are eligible to enroll in the nursing program.

Registered Nurse students are enrolled in the basic baccalaureate program in nursing. They will have a genuine upper division major in Nursing, and will fulfill all degree requirements set by the University and the Nursing Department. The

Registered Nurse student may be awarded advanced standing, based on prior work completed at an accredited college or university and on exemption tests at a given point in the curriculum.

COURSE DESCRIPTIONS

General education and science courses listed for freshmen and sophomore years are considered prerequisites for Nursing courses. Student must achieve Advanced Standing before enrolling for major nursing courses in the fifth semester.

NU 280 NURSING CORE I 3 cr.
Basic concepts of health and disease, implications for care of patients with problems common to maintenance of health.

NU 285 NURSING I 3 cr.
Theory and skills necessary for nursing intervention; diagnostic techniques, assessment; includes clinical practice.

NU 302 NURSING II 4 cr.
Concepts of health, introduction to illness and health problems, study of patients in hospital and various other settings, emphasis on medical and surgical aspects of nursing.

NU 303 CLINICAL PRACTICE IN MEDICAL-SURGICAL NURSING 4 cr.
Guided experience in care of medical-surgical patients in hospital and clinics, identification of patient's health needs, development and implementation of nursing care plan.

NU 304 NURSING III 4 cr.
The human reproductive cycle from conception to menopause in females, and through adolescence in children; normal biophysical and psychosocial growth and development, common abnormalities.

NU 305 CLINICAL PRACTICE IN MATERNAL-CHILD NURSING 4 cr.
Guided clinical practice in obstetric and pediatric nursing; exposure to the family in home, clinic, hospital, plus other health care settings.

NU 321 JUNIOR SEMINAR I 1 cr.
Organizational relationships; management of clinical unit; team method. Utilized with Nursing II for student-conducted patient care presentations.

NU 322 NURSING CORE II 3 cr.
Basic pathophysiological concepts of health and disease; broad theoretical foundation for the nursing process. Community and mental health concepts are incorporated.

NU 323 NURSING CORE III 3 cr.
Continuation of concepts of pathophysiology introduced in Nursing Core II. Community and mental health concepts are incorporated.

NU 324 JUNIOR SEMINAR II 3 cr.
Survey of teaching-learning process as related to clinical nursing; study of provision of health teaching to community groups.

NU 402 NURSING IV 3 cr.
Concepts of emotional health and illness, psychopathology, therapeutic intervention.

NU 403 CLINICAL PRACTICE IN PSYCHIATRIC NURSING 3 cr.
Guided experience in care of patients with psychiatric illnesses in home, clinic, hospital and community agencies.

NU 404 NURSING V 3 cr.
Advanced theory in medical and surgical nursing, critical care nursing.

NU 405 NURSING VI 3 cr.
Study of multiple health problems, public health facilities, health care on a community level.

NU 406 CLINICAL PRACTICE IN COMMUNITY NURSING 3 cr.
Guided clinical experience in caring for patients, particularly in home, clinic or other public health facility.

NU 424 CLINICAL PRACTICE IN ADVANCED MEDICAL-SURGICAL NURSING 3 cr.
Guided clinical practice in coronary and intensive care, surgical nursing, team leadership.

NU 425 SEMINAR IN NURSING 3 cr.
Study of trends in nursing practice, survey of nursing profession, pre-professional adjustments, philosophy of nursing.

NU 426,427 INDEPENDENT STUDY Varied credits
Internships, individual projects, faculty-supervised study focused on individual student interest.

NU 430 RESEARCH IN NURSING 3 cr.
Research methodology, development of a research study related to clinical nursing, writing research paper.

SAFETY SCIENCES DEPARTMENT

ROBERT LAUDA, CHAIRPERSON: LEE, McCLAY

The department offers the degree of Bachelor of Science in Safety Management with a specialization in occupational safety and health.

CURRICULA

B. S. in Safety Management

The degree in Safety Management qualifies the student for professional, administrative, managerial, and supervisory positions in industry, manufacturing, insurance, transportation, utility, government, contract construction, trade service industry and many others. There is an acute need in Pennsylvania and in the nation for the university educated occupational safety and health professional. The curriculum includes a major of 36 credits in Safety Sciences and 18 credits in Business Management. In addition, a number of elective courses are available in the major and minor fields that will enable the student to strengthen his primary interest areas.

REQUIRED UNDER GENERAL EDUCATION – In meeting the University's General Education requirement, the Safety Sciences major must include:

CH 101 and 102	Chem for Health and Home Ec. Majors	8 cr.
PC 101	General Psychology	3 cr.
SO 151	Principles of Sociology	3 cr.

BI 151	Human Physiology	3 cr.
MA 011 and 362	Elementary Functions Probability and Statistics	6 cr.
PY 111 and 112	Physics I and II	8 cr.

SAFETY SCIENCES MAJOR – The 36 credits required in Safety Sciences must be achieved by completing the following courses: SA 101, 111, 211, 301, 302, 303, 311, 345, 412, 445, and 450.

BUSINESS MANAGEMENT – The following courses are required in the Business Management specialty:

BU 101	Bus Org and Mgt	3 cr.
BM 201	Personnel Management	3 cr.
BU 321	Bus Communications	3 cr.
BU 339	Bus Data Processing	3 cr.
BM 383	Principles of Insurance II	3 cr.
BM 480	Practices and Proc of Collective Bargaining	3 cr.

COURSE DESCRIPTIONS

SA 101 INTRODUCTION TO OCCUPATIONAL SAFETY AND HEALTH MANAGEMENT 3 cr.

Covers theory and history of industrial hazard control, effects of hazards and failures on organizational control and productivity, safety and health legislation, accident causation, organization and administration of safety and health programs, aspects of recognizing, evaluating, and understanding control of safety and health hazards, acquiring hazard data, hazard analytical tools, communication techniques in safety and health management, and the role of interfacing management systems in hazard control.

SA 111 & 211 INDUSTRIAL SAFETY ENGINEERING I & II 3 cr. each

Prerequisite: SA 101.

Stresses understanding complexity of industrial hazard control problem by thoroughly examining elements of safety and health enumerated in OSHAct promulgated standards. Emphasis given to plant layout and design, materials handling, machine guarding, walking and working surfaces, hazardous materials and combustible liquids, industrial sanitation and environmental controls, compressed gases and cryogenics, electrical and static electricity hazards, boilers and unfired pressure vessels, protective equipment, and construction safety.

SA 301 NATURE AND EFFECTS OF OCCUPATIONAL HEALTH HAZARDS 3 cr.

Prerequisites: SA 101, CH 101, CH 102, SC 105 (Physics for Health Services Majors).

Provides understanding of primary health hazards found in industry and their effects on human body. Students learn to recognize hazards involved with air contaminants, noise, heat, radiation, chemicals on the skin, and other stresses. Emphasis placed on study of occupational disease, industrial toxicology, and use of threshold limit values.

SA 302 MEASUREMENT AND EVALUATION OF OCCUPATIONAL HEALTH HAZARDS 3 cr.

Prerequisite: SA 301.

A lecture/laboratory course which provides basic understanding of techniques used in measuring and evaluating the magnitude of health hazards in industry. Laboratory sessions provide experience in air sampling, noise measurement, heat measurement, particle size analysis, chemical analysis, and evaluation of industrial ventilation systems.

SA 303 CONTROL OF OCCUPATIONAL HEALTH HAZARDS 3 cr.
Prerequisites: SA 301, SA 302.
Study of engineering, administrative, and personal protective equipment methods of reducing or eliminating hazards to the health of industrial worker. Topics covered include: industrial ventilation, noise control, heat control, radiation control, personal protective equipment, and industrial health program.

SA 311 INDUSTRIAL FIRE PROTECTION 3 cr.
Prerequisites: CH 101, CH 102, SC 105 (Physics for Health Services Majors), SA 101, SA 211.
Introduces fundamental concepts in protection of industrial workers and property from fire and explosion. Fire chemistry, control of ignition sources in industry, and properties of combustible materials discussed. Fire detection and extinguishment covered along with building construction for fire prevention, fire codes, and related topics.

SA 345 SYSTEMS SAFETY ANALYSIS 3 cr.
Prerequisites: SA 111, SA 211.
Takes the approach of systems analysis in accident prevention, economics of system safety, information acquisition, analytical approaches, systems safety methodology, human factors engineering, mathematics of systems analysis (including statistical methods, boolean algebra, and testing and reliability), comparison of various analytical methods in the engineering design, inductive and deductive analytical techniques: PRELIMINARY HAZARD ANALYSIS, TASK ANALYSIS, FAILURE MODE AND EFFECT ANALYSIS, FAULT TREE ANALYSIS, and exercises in the application of FAULT TREE ANALYSIS to hardware and man/machine systems. Practical analysis work is accomplished in laboratory sessions.

SA 370 FLEET SAFETY 3 cr.
Includes topics involved with the development and operation of motor fleet safety programs: driver selection and training, accident investigation and record keeping, equipment safety features, preventive maintenance and driver incentive programs.

SA 412 MEASURING SAFETY AND HEALTH PROGRAM EFFECTIVENESS 3 cr.
Prerequisite: MA 362, Senior standing.
Teaches reasons and importance for evaluating safety and health innovations on organization performance, devising measuring systems capable of extracting accurate, meaningful data, methods of collecting, codifying, and processing accident-injury information, and utilization of data retrieval systems.

SA 445 PRODUCT SAFETY 3 cr.
Prerequisite: SA 345.
Traces flow of applicable legislation dealing with consumerism and product safety. Corporate liability for product safety emphasized through case studies. Student familiarized with evolving role of Consumer Product Safety Commission. Corporate management of product development and safety detailed with emphasis on systems safety analysis, standards and product testing.

SA 450 INTERNSHIP 6 cr.
Prerequisite: 24 hours of SA courses.
All Safety Management majors required to take and pass this course. It will be conducted away from the University at various industrial enterprises. Students are required to provide their own transportation. Intended to allow the student to apply hazard assessment and safety management practices to actual industrial situations while at same time being exposed to complexities of industrial environment. The student will spend 12 hours per week at an industrial location and 2 hours of classroom instruction weekly where his field assignments will be designated, his problems will be discussed, and his progress will be evaluated.

Board
5

The School of Home Economics

KATHLEEN JONES, DEAN

At Indiana University of Pennsylvania, Home Economics is the ongoing investigation of human interaction with the near environment as it contributes to one's aesthetic, physical, economic and social-psychological well-being.

The School of Home Economics emphasizes family relations and human development, resource management and consumer economics, food and nutrition, clothing and textiles, housing and interior design in its study of the near environment. Research from all disciplines is utilized.

The objectives of the School of Home Economics at Indiana University of Pennsylvania are: to guide students in the development of competencies and skills necessary for professions in home economics and related fields; to provide students with a foundation for advanced study in home economics and related fields; to assist in preparing students to lead useful lives as individuals, family members, and citizens.

Curricula in the School contribute to the development of professional competencies which enable graduates to enter a diversity of careers in education, business, industry and community services. The School is composed of three departments: Home Economics Education, Food and Nutrition and Consumer Services.

The School of Home Economics has been granted full accreditation status by the American Home Economics Association.

Minors

A minor consisting of 15 to 21 credits in a subject-matter area of home economics can be arranged for students enrolled in other schools of the university.

UNIVERSITY GENERAL EDUCATION REQUIREMENTS

Students enrolled in the School of Home Economics must meet the University requirements in General Education. The School requires that the Natural Sciences requirement be met by the following:

CH 101-102	Chem for Home Economics and Health Professions	8 cr.
Mathematics (see major Department requirement)		
*BI 151	Human Physiology	3 cr.
*BI 241	Microbiology	3 cr.

*Students electing the Textiles, Clothing, Interior Design concentration in the Consumer Services Department may replace Biology 151 and 241 with a Humanities elective. Biology 151 is not required for Food Service Management majors.

In meeting the Social Science requirements, all students in the School must take Psychology 101, General Psychology. Students in the Nutrition Education Option and Home Economics Education Department must elect History 104, History of the United States and Pennsylvania II. All students in the School are encouraged to elect general education courses in art, sociology, economics and anthropology.

SCHOOL OF HOME ECONOMICS REQUIREMENTS

In addition to the University requirements, each student is required to pass one course offered by the departments in the School he/she is not enrolled in at the time of graduation. Accepted courses are:

Home Economics Education		
HO 218	Child Development	3 cr.
HO 319	Family Relations	3 cr.
Food and Nutrition Department		
FN 111	Introduction to Foods	3 cr.
FN 212	Nutrition	3 cr.
FN 351	Nutrition Education	3 cr.
FN 214	Food and Man	3 cr.
Consumer Services		
CS 113	Management and Equipment	3 cr.
CS 315	Consumer Economics & Family Finance	3 cr.

HOME ECONOMICS EDUCATION DEPARTMENT

ALMA KAZMER, CHAIRPERSON: ANDERSON, BELL, BROWNING, FERNANDEZ, GALLATI, HOVIS, NELSON, RUPERT

If you enjoy working with people of various age levels and incomes, a number of opportunities await you in Home Economics Education.

The program of studies leads to a Bachelor of Science in Education with a Home Economics major and meets certification requirements for teaching home economics at all levels (K—Adults) in the schools of Pennsylvania.

Upon completion of the program, students have the credit hours necessary for teaching in government sponsored Day Care and Head Start Programs. Students may also receive the Nursery-Kindergarten Certificate issued by the Bureau of Private Academic Schools.

This program also prepares one for varied types of employment related to improving family life such as home economists with: state extension services, utility companies, social service organizations and government agencies.

In addition to University and School requirements, the student is required to complete the following home economics content and professional education courses.

Home Economics Content Requirements

CS 112	Clothing Construction and Fitting	3 cr.
	or	
CS 114	Advanced Clothing Construction	3 cr.
CS 113	Management and Equipment	3 cr.
CS 214	Apparel Structure and Design	3 cr.
CS 216	Clothing and Man	3 cr.
CS 217	Interior Design	3 cr.
CS 314	Textiles	3 cr.
CS 315	Consumer Economics and Family Finance	3 cr.
CS 414	Home Management	3 cr.
FN 111	Introduction to Foods	3 cr.
FN 211	Advanced Foods	3 cr.
FN 212	Nutrition	3 cr.
HE 213	Principles of Design (See Special Courses in Art Department)	2 cr.
HO 218	Child Development	3 cr.
HO 319	Family Relations	3 cr.
HO 412	Nursery School	3 cr.
	Elective in any Home Economics area	3 cr.

Professional Education Requirements

HO 250	Introduction to Teaching Vocational Home Economics Education	3 cr.
HO 350	Methods of Teaching and School Law in Vocational Home Economics Education	3 cr.
EP 302	Educational Psychology	3 cr.
LR 301	Audio-Visual Education	3 cr.
FE 302	History and Philosophy of American Education	3 cr.
ED 431	Student Teaching (for Home Economics)	8 cr.

COURSE DESCRIPTIONS

(Courses are 3 hours lecture per week unless noted otherwise)

HO 218 CHILD DEVELOPMENT 3 cr.
Prerequisite: PC 101
Focuses on normal development and behavior of children. Survey made of physical, emotional, social and intellectual development of children from conception through early adolescence. Pertinent child development research analyzed.

HO 250 INTRODUCTION TO TEACHING VOCATIONAL HOME ECONOMICS EDUCATION 3 cr.
Focuses on role of home economics teacher through: study of students, families, schools and communities; planned observations of students; selection, use and evaluation of techniques and materials; lesson planning; mini-teaching experiences and self-evaluation relative to desired teacher competencies.

HO 319 FAMILY RELATIONS 3 cr.
Prerequisites: PC 101, HO 218 (Major)
Focuses on preparation for marriage and principles of human relations basic to marital adjustment. Influence of community and family experiences on personal development and adjustment emphasized.

HO 350 METHODS OF TEACHING AND SCHOOL LAW IN VOCATIONAL HOME ECONOMICS EDUCATION 3 cr.
Prerequisites: EP 302, HO 250
Orientation to classroom teaching through planned activities in which students utilize and evaluate varied methods, techniques and

resources. Emphasis on basic principles of school law and vocational legislation relating to home economics education.

HO 363 THE FAMILY AND THE COMMUNITY 3 cr.
Study of community contributions and problems that affect family and contributions of family to community. Investigation of group dynamics, communication media and other resources aid understanding of human behaviors. field work is integral part.

HO 412 NURSERY SCHOOL 3 cr.
Prerequisites: EP 302, HO 218 or equivalent. (Non majors admitted by permission of department chairman)
Techniques for planning and managing a group of pre-school children. Participation as teacher assistant provides experience in applying principles of child guidance and development needed by teachers in public pre-school centers or secondary school child development laboratories. (Two hours lecture and six hours laboratory per week for one quarter)

HO 421 PRE-SCHOOL EDUCATION AGES 2–5 YEARS 3 cr.
Prerequisite: HO 218
Observations and experiences with children are used as basis for understanding guidance procedures appropriate to pre-school children. Program evaluation, curriculum and administration emphasized.

HO 422 EARLY CHILDHOOD EDUCATION 3 cr.
Prerequisite: HO 218
Current educational theories and research reviewed in terms of implication for pre-school and their effect on material, equipment and activity selection.

HO 423 MARRIAGE AND FAMILY RELATIONS 3 cr.
Emphasis placed on understanding varying family life styles, basics of marriage and changing family roles. Course is based on the disciplines of sociology and psychology as they apply to individuals and families. Effective problem-solving, decision-making and identification of potential problems in marriage are emphasized.

HO 424 THE FAMILY 3 cr.
Prerequisite: HO 319
Concentrated study of selected areas of family life, with emphasis on dynamics of family interaction and interpersonal relationships.

HO 425 STUDY TOUR IN FAMILY LIFE 2-6 cr.
Option: Family Life
Opportunity to observe family social structure and values in relation to cultural background and economic conditions. Culture, class, ethnic variations in family/kinship systems examined.

Option: Child Development
Opportunity to observe developing child in family life/education relative to cultural background and economic conditions.

HO 451 WORKSHOP IN HOME ECONOMICS EDUCATION 3 cr.
Prerequisite: HO 250
Identification and evaluation of current trends and issues in home economics.

HO 453 INNOVATIVE TEACHING 1-3 cr.
Prerequisite: HO 250
Investigation and evaluation of innovative curriculum materials, resources and techniques.

HO 454 HOME ECONOMICS EDUCATION FOR ADULTS 3 cr.
Prerequisite: HO 250
Focuses on: background and philosophy of adult education; types of home economics programs and methods of implementation; characteristics of adult learners; observation and teaching participation in adult programs.

ED 431 STUDENT TEACHING (HOME ECONOMICS) 8 cr.
Prerequisite: HO 350
Supervised teaching experience provides opportunities to guide public school students in the learning process. Self evaluation of personal and professional growth emphasized. Attendance at Saturday seminars required. Meets for one quarter.

*HO 471V CURRICULUM DEVELOPMENT IN HOME ECONOMICS EDUCATION 3 cr.
Prerequisite: HO 250
Various tasks and processes of curriculum development reviewed and analyzed. Emphasis on realistic decision making and innovative procedures in developing home economics curriculum.

*HO 472V EVALUATION IN HOME ECONOMICS 3 cr.
Nature and scope of evaluation in contemporary home economics programs emphasizing use and construction of variety of tests and devices designed to measure comprehensive home economics educational objectives.

*Dual level courses

CONSUMER SERVICES DEPARTMENT

SANDRA LYNN, CHAIRPERSON: CRAMER, HANDRAHAN, SCHMITT, SHARMA, SLACK, STREIFTHAU, VIGGIANO, WOOD

The Consumer Services Department offers the degree of Bachelor of Science in Home Economics with two options: Business and Community Service. Both options prepare men and women for positions where consumer concerns are of primary importance. Graduates are employed by retailing establishments, manufacturing companies, utility companies, extension, social and governmental agencies.

Subject matter courses offered by the department include those in the areas of textiles, clothing, housing, interior design, household equipment, consumer and family economics, and home management. These courses plus selected electives from other departments in the University may be utilized for specific programs to meet the particular career goals of individual students.

Students are encouraged to develop their individual potential through the application of knowledge gained in the classroom to job situations and departmental, campus, and community activities. Some students elect the Field Experience course which gives them the opportunity to apply their academic knowledge in an internship or job situation. Students may elect a study tour to gain an understanding of business procedures and/or consumer problems in various areas of the world. The faculty work closely with students in planning and integrating their academic program with meaningful experiences outside the classroom.

Course requirements for the degree include 52 credits in

General Education, required by the University, 36 credits in Home Economics courses, 18 credits in a concentration of courses outside the School of Home Economics related to the student's career goal, and 18 credits in supporting electives.

Department Requirements

In addition to meeting the University and School requirements, all students in the Department must take the following:

CS 113	Management and Equipment	3 cr.
CS 315	Family Finance & Consumer Economics	3 cr.
CS 421	Consumer Services Practicum	3 cr.
HE 213	Principles of Design (See under Special Courses in Art Department)	2 cr.

Department Elective

CS 451	Field Experience (Internship)	1-12 cr.

HOME ECONOMICS IN BUSINESS OPTION

Students selecting this option may concentrate their home economics courses in the areas of (1) textiles, clothing, interior design, or (2) foods, nutrition, and equipment, or (3) they may choose a variety of courses from all subject matter areas of home economics. Graduates may be employed by business organizations producing or selling foods, clothing, textiles, home furnishings or related products, or by a department store or utility company.

Textiles, Clothing, Interior Design Concentration

Required:

CS 112 or CS 114	Fundamentals of Clothing Construction Advanced Clothing Construction	3 cr.
CS 216	Clothing and Man	3 cr.
CS 217	Interior Design	3 cr.
CS 314	Textiles	3 cr.
CS 318	Fashion Analysis	3 cr.

Minimum of 6 Credits From the Following:

CS 214	Apparel Structure and Design	3 cr.
CS 312	Housing and Man	3 cr.
CS 354	Special Problems	3 cr.
CS 356	Historic Costume	3 cr.
CS 357	Interior Design Studio	3 cr.
CS 362	Historic Interiors	3 cr.
CS 413	Problems in Consumer Economics	3 cr.
CS 416	Problems in Family Finance	3 cr.
CS 417	Tailoring	3 cr.
CS 433	Study Tour	1-6 cr.

Foods, Nutrition, Equipment Concentration

Required:

FN 211	Advanced Foods	3 cr.
FN 212	Nutrition	3 cr.
FN 357	Special Problems in Foods	3 cr.
FN 362	Experimental Foods	3 cr.

Minimum of 9 Credits From the Following:

FN 214	Man and Food	3 cr.

FN 313	Quantity Food Production and Service	4 cr.
CS 354	Special Problems	3 cr.
FN 355	Diet Therapy	3 cr.
FN 443	Study Tour (Foods)	3 cr.
CS 217	Interior Design	3 cr.
CS 312	Housing and Man	3 cr.

Outside Concentration

A minimum of 18 credits is required from the following, or approved Business substitutes:

BU 101	Business Organization and Mgt.	3 cr.
*BE 111	Foundations of Math	3 cr.
BM 201	Personnel Management	3 cr.
BU 221	Intro to Accounting	4 cr.
BU 233	Marketing	3 cr.
BU 251	Intermediate Accounting	3 cr.
BU 321	Business Communications	3 cr.
BU 331	Consumer Behavior	3 cr.
BU 332	Retail Management	3 cr.
BU 333	Principles of Selling	3 cr.
BU 339	Business Data Processing	3 cr.
BM 434	Advertising	3 cr.

Additional Requirements:

*EC 121	Principles of Econ I	3 cr.
EC 122	Principles of Econ II	3 cr.

*May be taken as a General Education requirement.

HOME ECONOMICS IN COMMUNITY SERVICES OPTION

Courses from all subject matter areas of home economics are included in this option. Electives may be concentrated in particular home economics areas. A concentration of courses is elected in a field of study outside home economics, such as sociology. Graduates may be employed by the Extension service or by various governmental and welfare agencies.

Required:

FN 212	Nutrition	3 cr.
CS 112	Clothing Construction and Fitting	
	or	
CS 114	Advanced Clothing and Construction	3 cr.
CS 216	Clothing and Man	3 cr.
CS 312	Housing and Man	3 cr.
CS 314	Textiles	3 cr.
CS 414	Home Management	3 cr.
HO 319	Family Relations	3 cr.

A minimum of 18 credits beyond General Education courses are to be selected in a field of concentration such as Sociology and/or Psychology. Suggested courses are:

SO 231	Cont. Social Problems	3 cr.
SO 332	Racial and Cult. Minor	3 cr.
SO 333	Juvenile Delinquency	3 cr.
SO 335	Social Stratification	3 cr.
SO 336	Soc. of Family	3 cr.
SO 338	Intro to Social Work	3 cr.

SO 339	The Community	3 cr.
AN 211	Cultural Anthro.	3 cr.
AN 319	Soc. Structure and Function	3 cr.
PC 300	Psy. of Adjust.	3 cr.
PC 351	Intro to Psy. Meas.	3 cr.
PC 354	Developmental Psy.	3 cr.
PC 356	Personality	3 cr.
PC 357	Abnormal Psy.	3 cr.
PC 358	Social Psy.	3 cr.
PC 361	Motivation	3 cr.
PC 373	Adolescent Psy.	3 cr.
PC 374	Psy. of Adulthood & Old Age	3 cr.

COURSE DESCRIPTIONS

CS 112 FUNDAMENTALS OF CLOTHING CONSTRUCTION 3 cr.
Prerequisite: Beginner.
Principles and techniques involved in fundamental clothing construction and fitting are analyzed. Directed laboratory experiences provide opportunity to solve individual problems in garment structure through application of principles. For students with no sewing experience. One hour lecture, 3 hours lab.

CS 113 MANAGEMENT AND EQUIPMENT 3 cr.
Problems of consumer concerned with selection, use, and care of equipment for the home are investigated. Management and decision making processes relative to administration of a home are studied. Two 1-hour lectures, one 2-hour lab.

CS 114 ADVANCED CLOTHING CONSTRUCTION 3 cr.
Prerequisite: Experience
In-depth study of principles of advanced clothing construction and fitting are applied and analyzed through couture design. One hour lecture, 3 hours lab.

CS 214 APPAREL STRUCTURE AND DESIGN 3 cr.
Prerequisite: CS 112 or CS 114 or exemption exam.
Garment design achieved by use of flat pattern techniques. An understanding is developed of the interrelationship of garment design, fabric, fit, and construction processes. One hour lecture, 3 hours lab.

CS 216 CLOTHING AND MAN 3 cr.
Prerequisite: PC 101
Interaction of the aesthetic, cultural, social-psychological, economic, managerial, and physical factors in determining the meaning and use of clothing for the individual and society. Three lecture hours.

CS 217 INTERIOR DESIGN 3 cr.
Prerequisite: HE 213 or equivalent.
Emphasis upon development of knowledgeable consumers in the selection and design of a home, its furnishings, and its total environment. Two 1-hour lectures, one 2-hour lab.

CS 312 HOUSING AND MAN 3 cr.
Managerial, sociological, economic, and aesthetic aspects of housing man are investigated as well as a consideration of the environment of the home as part of the community. Three hours lecture. Fall semester only.

CS 314 TEXTILES 3 cr.
Prerequisite: Chemistry 102.
Interpretation of basic textile knowledge with emphasis on fiber, yarn, fabric structures and fabric finishes. Discussions include importance of factors related to consumer information, protection, and satisfaction. Two 1-hour lectures, one 2-hour lab.

CS 315 FAMILY FINANCE AND CONSUMER ECONOMICS 3 cr.
Economic, sociological, and psychological principles are applied to

family money management problems. Sources of consumer aid and protection are investigated. Three lecture hours.

CS 318 FASHION ANALYSIS 3 cr.
Prerequisite: CS 216.
A study of fashion as a social force and its economic impact; an investigation of aspects of fashion merchandise used by various groups of consumers for apparel and for furnishing the home. Three lecture hours. Fall semester only.

CS 354 SPECIAL PROBLEMS 3 cr.
Prerequisite: Departmental permission.
Particular consumer considerations are independently investigated in the area of housing, equipment, interior design, clothing, textiles, or in the management of resources. Students meet with a faculty member at least 15 hours.

CS 356 HISTORIC COSTUME 3 cr.
Chronological study of historic costume from ancient times to the present day, emphasizing style details as well as social, economic, political, religious, and aesthetic influences on design of clothing worn. Three lecture hours. Fall semester only, odd year.

CS 357 INTERIOR DESIGN STUDIO 3 cr.
Prerequisite: CS 217.
Creative solutions to problems in interior environments emphasized. Field trips to museums, furniture factories, stores and private residences included. One hour lecture, 4 laboratory hours. Spring semester only.

CS 362 HISTORIC INTERIORS 3 cr.
Chronological study from ancient times to the present of the dominant influences and characteristics of historical interiors, furniture and ornamental design. Emphasis placed upon style detail and its relationship to social, economic, political, religious and aesthetic influence; and to the contemporary scene. Three lecture hours. Spring semester only, odd year.

CS 413 PROBLEMS IN CONSUMER ECONOMICS 3 cr.
Prerequisite: CS 315 or Economics.
Problems in consumer expenditures studied with emphasis given to affects of current economic and social forces. Governmental and private agencies which aid the consumer are reviewed. Individual investigations required. Three lecture hours. Fall semester only.

CS 414 HOME MANAGEMENT 3 cr.
Management as a system, decision-making and utilization of resources as they relate to various family situations are studied. The importance of recognizing group as well as individual needs is stressed. Laboratory fee. Two one-hour lectures, one two-hour lab.

CS 416 PROBLEMS IN FAMILY FINANCE 3 cr.
Prerequisite: CS 315.
More advanced problems in personal and family finance are studied. Three lecture hours. Spring semester only.

CS 417 TAILORING 3 cr.
Prerequisite: CS 112 or CS 114.
Various tailoring methods are studied and applied in the selection, fitting and construction of a tailored garment. Consumer problems in the selection of ready-to-wear apparel are investigated. Fall semester only. One hour lecture; 3 hours lab.

CS 421 CONSUMER SERVICES PRACTICUM 3 cr.
Applies knowledge gained in Home Economics and supporting courses to individual vocational goals. Stress is placed upon independent research, analytical thinking and communication skills.

CS 433 STUDY TOUR 1-6 cr.
Opportunity is provided to visit business establishments and cultural centers concerned with household equipment, furnishings, textiles, clothing, and housing abroad or in America. Museums, factories, designer's showrooms, distribution centers, stores, cultural events and seminars are included. Upper standing level.

CS 451 FIELD EXPERIENCE 1-12 cr.
Prerequisites: Approval of instructor and department chairperson; upper level standing.
Field experience related to the student's major area of study with objectives supervised experience, and evaluation. Course may be repeated up to a total of 12 hours.

FOOD AND NUTRITION DEPARTMENT

ALLEN M. WOODS, CHAIRPERSON: BERTHY, CESSNA, DAHLHEIMER, GRESSLEY, SIMKINS, STAHLMAN, STEINER

Interesting work, good salaries and opportunity for advancement in positions that give meaning, satisfaction and a purpose in life await young men and women who prepare for careers in the growing fields of dietetics, food service management, and educational food services.

Courses offered by the Food and Nutrition Department are planned to train the student as a professional to meet the challenge of this growing industry, which includes not only the commercial food service and hospitality facets of the industry, but hospital and educational segments as well.

The prime requisites for success in the field of foods and nutrition are an interest in people, an artistic appreciation of quality food, a realization of the need for good nutrition, and a knowledge of sound business principles.

This department offers the following three options:

Nutrition Education Option

Graduates are prepared to manage the school food service programs; to provide meals with optimum nourishment to school children, to the elderly, to child care centers, or to any of the many nutrition feeding programs and to render professional service to teachers concerning the teaching of nutrition. This program meets Pennsylvania Department of Education certification requirements for a Nutrition Program Specialist (Education Specialist I).

Requirements for the American Dietetic Association internship can also be met by taking additional elective courses.

Dietetic Option

This program prepares the student to enter management in the dietary department in hospitals, business and institutional establishments. Requirements for an American Dietetic Association internship are met. The goal of students in this option should be an internship and American Dietetic Association registration.

Food Service Management Option

This program is planned to prepare graduates for management positions with establishments providing food service to the general public. Graduates have competencies in the areas of nutrition and food management as well as in business.

In addition to University and School requirements the following courses are required.

Food and Nutrition – All Options

FN 111	Introduction to Foods	3 cr.
FN 211	Advanced Foods	3 cr.
FN 313	Quantity Food Production and Service	4 cr.
FN 356	Food Service Personnel and Administration	3 cr.
FN 358	Food Service Equipment and Layout	3 cr.
FN 359	Quantity Food Purchasing	3 cr.
FN 362	Experimental Foods	3 cr.
FN 364	Methods of Teaching	3 cr.
BU 221	Intro to Accounting	3 cr.

Nutrition Education and Dietetics

BI 151	Human Physiology	3 cr.
EP 302	Educational Psychology	3 cr.
FN 212	Nutrition	3 cr.
FN 402	Nutrition and Community Health	3 cr.

Nutrition Education

ED 433	School Law	1 cr.
LR 301	Audio Visual Education	3 cr.
FE 302	History and Philosophy of American Education	3 cr.
FN 408	School Foodservice Management	3 cr.
FN 321	Professional Employment Practicum	0 cr.

Dietetics

CO 200	Intro to Computers	3 cr.
CH 355	Biochemistry and Nutrition	3 cr.
FN 355	Nutrition In Disease	3 cr.

Food Service Management

CO 200	Intro to Computers	3 cr.
BU 101	Business Organization and Management	3 cr.
BU 235	Business Law I	3 cr.
BU 233	Marketing	3 cr.
BM 480	The Practices and Processes of Collective Bargaining	3 cr.
FN 351	Nutrition Education	3 cr.
FN 404	Hospitality Management Seminar	3 cr.
FN 406	Catering Management	3 cr.

COURSE DESCRIPTIONS

FN 111 INTRODUCTION TO FOODS 3 cr.
Basic principles of food preparation, including use of equipment, menu planning, marketing and table service for family meals. Two hours lecture and 2 hours of laboratory work and/or demonstration per week.

FN 211 ADVANCED FOODS 3 cr.
Prerequisites: FN 111, CH 102 or concurrently.
An in-depth study of food preparation, including food preservation, protein, carbohydrate and fat cookery. Two hours lecture and 3 hours laboratory per week.

FN 212 NUTRITION 3 cr.
Prerequisites: CH 102, BI 151 or concurrently.
Sources and functions of nutrients and interdependence of dietary essentials and nutritive value of an optimum diet are studied. Attention given to varied conditions in human life. Three lecture hours per week.

FN 214 MAN AND FOOD 3 cr.
Prerequisites: PC 201 or SO 151 or AN 110.
Exploration of the economic, biological, psychological, social and aesthetic significance of food for individuals, families and society. Especially recommended for non-majors but is offered as an elective for majors in the School of Home Economics. Three lecture hours per week.

FN 313 QUANTITY FOOD PRODUCTION AND SERVICE 4 cr.
Prerequisites: FN 211 and 212.
A basic course in quantity food production with experience in planning purchasing, preparing and serving nutritionally adequate meals. Requirements of National School Lunch program emphasized in satellite and on-premise feeding.

FN 321 PROFESSIONAL EMPLOYMENT PRACTICUM 0 cr.
Prerequisites: FN 313 plus 60 credits.
Junior or sophomore summer is used for an employment experience in an approved food service facility. Students seek their own position. Assistance and guidance given by department chairman.

FN 351 NUTRITION EDUCATION 3 cr.
Study of the functional knowledge of nutritional concepts directed toward improved food habits and nutritional health. Three lecture hours per week.

FN 355 NUTRITION IN DISEASE 3 cr.
Prerequisites: FN 212; CH 102; BI 151.
Modification of normal adequate diet to meet nutritional needs in pathological conditions requiring special dietary treatment. Advanced nutrition study. Three lecture hours per week. Fall semester.

FN 356 FOOD SERVICE ADMINISTRATION 3 cr.
Prerequisites: PC 201, FN 313, 201 and BE 360.
Organization and administration of food service business, including personnel policies, work simplification, cost controls, supervision and sanitation.

FN 357 SPECIAL PROBLEMS IN FOODS 3 cr.
Prerequisites: FN 211.
Individual problems in foods investigated with emphasis on identified weaknesses in student's knowledge of food. Four hours per week.

FN 358 FOOD SERVICE EQUIPMENT AND LAYOUT 3 cr.
Prerequisite: FN 313.
Selection and layout of food service equipment in relation to production, work flow and efficient management. Field trips permit investigation of a variety of layouts. Three hours per week. Fall semester.

FN 359 QUANTITY FOOD PURCHASING 3 cr.
Prerequisites: FN 313 or concurrently.
Course includes sources, standards of quality, grades, methods of purchase and storage of various foods. Emphasis is given to the development of purchasing policies and procedures. Spring semester.

FN 362 EXPERIMENTAL FOODS 3 cr.
Prerequisites: FN 211, 212 and CH 102.
Study of foods based on scientific methods wherein physical and chemical principles are observed. Professional demonstration techniques are included. Four hours per week.

FN 364 METHODS OF TEACHING 3 cr.
Current teaching techniques and resource materials in nutrition education emphasized. Both classroom teaching and on-the-job training programs are included. Three lecture hours per week.

FN 401 FOOD MANAGEMENT COST CONTROLS 3 cr.
Food, beverage and labor cost controls for restaurants, school lunch programs and health care feeding facilities are studied including relationships between budgetary information and managerial decision making in large food service operations.

FN 402 NUTRITION AND COMMUNITY HEALTH 3 cr.
Prerequisite: FN 212.
Nutritional implications of both good and poor nutrition for all age groups in home and community situations are studied. Corrective and preventive measures emphasized. Spring semester.

FN 404 HOSPITALITY MANAGEMENT SEMINAR 3 cr.
Psychological and sociological aspects of serving public are considered along with current management techniques to provide student with a professional and technological insight of this rapidly growing industry.

FN 406 CATERING MANAGEMENT 3 cr.
Profitable organization, preparation, and service of catered food both on and off the premises is main focus of course.

FN 408 SCHOOL FOODSERVICE MANAGEMENT 3 cr.
Prerequisites: FN 313, 358, 364
Includes the state and federal history of school foodservice, legislation affecting the program, funding, government donated commodities, federal inspection, and application and claim forms. Field trips for observation and participation in school foodservice operations at approved centers will be arranged.

FN 433 EDUCATION STUDY TOUR IN FOODS 2-6 cr.
Comprehensive program of directed activities permits first hand knowledge of growing, processing, marketing and preparation of foods. The historical and cultural aspects of food are studied. Visits to food markets, catering schools, research centers, famous restaurants, etc., are included.

Addendum: White uniforms including white shoes are required for all lab courses where food is prepared. Students must meet the professional dress requirements of the department.

MILITARY SCIENCE

LTC ANTHONY F. LENZI, CHAIRPERSON: MAJ THOMAS L. KISTNER, CPT DAVID L. REIMOLD, CPT EDWARD O. WALSH, MSG RAYMOND C. BROADBENT, MSG OLNEY A. KNUDTSON, SSG DELMOS P. PHILLIPS, SSG RONALD R. BEDNARSKI, SSG MARTIN J. PALGUT

Indiana University of Pennsylvania is authorized a Senior Reserve Officers' Training Corps (ROTC) unit. The ROTC program offers to both men and women the opportunity to learn and practice leadership and managerial techniques that will prove beneficial in all life's future endeavors; to obtain credits which count toward graduation; and to those who choose to complete the total program, a commission as a second lieutenant in the US Army.

Regular ROTC classes for two semesters satisfy the mandatory University requirement for taking Health and Physical Education classes.

ENROLLMENT

The program is broken into two phases: the Basic Course (freshman and sophomore years) and the Advanced Course (junior and senior years). Enrollment in any of the freshman or sophomore level ROTC courses (MS 101, MS 102, MS 203, MS 204 or MS 996 through MS 999) in no way obligates or commits the student to any military service or any further ROTC courses. These courses are offered on the same basis as other academic courses at IUP with the privilege of withdrawing at any time.

REQUIREMENTS FOR ENROLLMENT

The general requirements for enrollment in ROTC are that the student be accepted by the University as a regular enrolled student, be a citizen of the United States, physically qualified, not less than 14 years of age, but 27 or less at anticipated graduation date. Veterans and junior ROTC graduates may receive exemptions from the Basic ROTC Course as approved by the PMS. For continuation in the ROTC during the junior and senior years, the student must have a 2.0 grade point average in his academic area, successfully completed requirements for the Basic ROTC Course, pass a physical examination, and be accepted by the Professor of Military Science (PMS). Advanced Course students must agree in writing to complete the junior and senior years since they will receive $100 a month subsistence during these school years.

WHAT ROTC OFFERS

Equipment, ROTC textbooks and uniforms are issued without cost to enrolled students.

Students formally enrolled in the Advanced Course (MS 305, MS 306, MS 407 and MS 408) are paid a subsistence allowance (currently $100 a month) during the school year.

Training in leadership and managerial techniques with opportunities to develop these techniques with practical experiences.

Training in other practical skills such as scuba diving, adventure training, rappelling, marksmanship and orienteering.

Opportunities to examine the military profession in detail. This includes the Regular Army, National Guard, and Army Reserve.

If students so desire and are accepted into the Advanced Course, they will receive commissions as Second Lieutenants upon graduation from the University.

MILITARY SCIENCE CURRICULUM

REGULAR BASIC COURSE – The first two years of military science provide a background of the historical role of military forces as well as current national military objectives. In addition, basic leadership is developed and certain skills are taught such as adventure training, survival training, map reading, scuba diving, rappelling and marksmanship.

MS 101 WORLD MILITARY HISTORY 2 cr.
A study of the relationship and impact of warfare and military forces on the development of the world. This includes the interaction of military forces on the social, economical, and technological development of the world as well as a study of strategy, tactics and personalities involved in the major wars. Also, see Leadership Laboratory.

MS 102 AMERICAN MILITARY HISTORY 2 cr.
Study of the evolution of American military institutions and policies and their relationship to society from colonial times to present. Included will be studies of the major wars, their strategy and their impact as well as the personalities involved. Also, see Leadership Laboratory.

MS 203 FUNDAMENTALS OF TACTICAL OPERATIONS AND TERRAIN ANALYSIS AND MILITARY TOPOGRAPHY 2 cr.

Organization, techniques, resources and capabilities involved in conducting small unit tactical operations. Emphasis is on leadership, organization, and management techniques needed to cause a group of people to accomplish specific objectives. The use of military maps to determine topographic features, conduct land navigation and perform terrain analysis will be covered. Also, see Leadership Laboratory.

MS 204 NATIONAL SECURITY AND FUNDAMENTALS OF MILITARY TOPOGRAPHY 2 cr.

Study of national security concepts, policies and the national decision making process with emphasis on national resources, national will, and economic factors. Included will be a study of nuclear and conventional response options. Fundamentals of military topography will complete the semester. Also, see Leadership Laboratory.

OPTIONAL BASIC COURSE — Designed for freshman and sophomore students who find that their academic load is too heavy for them to take the regular Basic Course but still desire to participate in the ROTC program. This option enables the student to enroll in only one class per week in ROTC. Only the Leadership Laboratory class is taken. (Contents of this class is listed below.) Completion of optional Basic Course in freshman and sophomore years will qualify the student to enroll in the Advanced Course should he desire to do so. Academic credit toward graduation is not granted, nor is the University requirement for Health and Physical Education satisfied by taking this option as it is for the regular Basic Course. Course identification for freshmen and sophomores is MS 996, MS 997 and MS 998, MS 999, respectively.

ADVANCED COURSE — The last two years constitute the Advanced Course of instruction for both men and women who desire a commission as a Second Lieutenant in the Army of the United States. (Either the Army Reserve, National Guard or, for selected students, the Regular Army). This phase is composed of studies in advanced leadership and management, tactics, military law, psychological, physiological and social factors which affect human behavior and modern instructional and training techniques. Practical application is the rule and students have the opportunity to practice and polish their skills. Participation in the Advanced Course will earn the student approximately $2,400 between $100 a month subsistence and pay for summer camp ($1,800 is not taxable).

MS 305 FUNDAMENTALS OF LEADERSHIP AND MODERN LEARNING/TEACHING RELATIONSHIP 3 cr.

Study in practical application of principles of Leadership/Management as applied in classroom and field to include case studies in psychological, physiological, and sociological factors which affect human behavior; individual and group solution of leadership problems common to small units. Also, see Leadership Laboratory.

MS 306 STUDY OF ADVANCE LEADER; PLANNING AND EXECUTION OF MODERN COMBAT OPERATIONS 3 cr.

Analysis of leader's role in directing and coordinating efforts of individuals and small units in execution of offensive and defensive

tactical missions, to include command and control systems, the military team, and intelligence gathering. Also, see Leadership Laboratory.

MS 407 MANAGEMENT OF THE MILITARY COMPLEX TO INCLUDE FUNDAMENTALS OF MILITARY AND INTERNATIONAL LAW 3 cr.

Study of the various managerial elements needed to effectively control a military organization and their techniques used to accomplish these functions. Studies in military law and international law prepares the students for his legal responsibilities.

MS 408 SEMINAR IN MILITARY ANALYSIS AND MANAGEMENT 3 cr.

Contemporary analysis of use of military in world affairs to include importance of strategic mobility and neutralization of insurgent movements. Selected management problems and situations will be presented as they relate to military justice, administration, and obligation and responsibilities of an officer. Also, see Leadership Laboratory.

LEADERSHIP LABORATORY (one afternoon per week) 0 cr.

A practical experience designed for the attainment and application of leadership principles. Concurrently scheduled in conjunction with all Military Science courses, it provides for articulation of students from the basic experience and development of the individual to the application of responsibilities and professional experience in a meaningful environment.

SUMMER CAMP 0 cr.

Students attend a six-week summer camp upon completion of the first year of the Advanced Course. Time at camp is devoted to practical application of principles and theories taught during the preceding school years. While at camp, each student receives lodging, subsistence, uniforms, medical care, reimbursement for travel and pay in amount of one-half the pay of a second lieutenant per month.

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M.Ed., Pennsylvania State University

DONALD D. DUNCAN, Associate Professor — Mathematics
M.A., Pennsylvania State University

DIANE L. DUNTLEY, Assoc. Professor — Academic Coordinator EOP
Ed.D., State University of New York, Buffalo

JERRY K. EDDY, Associate Professor — Physics
Ph.D., West Virginia University

KENNETH F. EDGAR, Professor — Psychology
Ph.D., University of Pittsburgh

DONALD G. EISEN, Associate Professor — English
M.A., Western Reserve University

JOAN B. ELLIOTT, Associate Professor — Elementary Education
M.A., West Virginia University

MARY LOUISE ELTZ, Assoc. Professor — Health & Physical Education
M.Ed., East Stroudsburg State College

CHARLES W. FAUST, Professor — Romance & Classical Languages
M.A., Middlebury College

FRANK FAZIO, JR., Professor — Chemistry
Ph.D., University of Pittsburgh

GENE A. FELIX, Assistant Professor — Speech and Hearing
M.S., Pennsylvania State University

RONALD T. FERGUSON, Professor — History
Ph.D., University of Minnesota

LOUISE FERNANDEZ, Professor — Home Economics Education
Ed.D., New York University

VINCENT J. FERRARA, Professor — Philosophy
Ph.D., Fordham University

GARY M. FERRENCE, Professor — Biology
Ed.D., Indiana University, Bloomington

JERRY FIDDLER, Associate Professor — Elementary Education
Ed.D., State University of New York, Buffalo

FERNAND FISEL, Associate Professor — Romance & Classical Languages
M.A., Andrews University

MARSHALL G. FLAMM, Professor — Speech and Hearing Clinic; Special Education
A.M., Temple University

LIDA T. FLEMING, Assistant Professor — University School
Ed.M., Pennsylvania State University

PEGGY L. FLETCHER, Assistant Professor — Business Management
MBA, University of Pittsburgh

WILLIAM R. FORBES, Associate Professor — Biology
Ph.D., Indiana University, Indiana

WILLIAM M. FORCE, Associate Professor — English
M.A., Colgate University

JOHN N. FOX, Professor — Physics
Ph.D., Wesleyan University

HELGA P. FREUND, Associate Professor — Art
M.Ed., Columbia University

JOHN R. FREUND, Professor — English
Ph.D., Indiana University

ERNEST B. FRICKE, Associate Professor — History
Ph.D., New York University

DONALD P. FRITZ, JR., Assistant Professor — English
M.Ed., Indiana University of Pennsylvania

EDWIN J. FRY, Associate Professor — Music
M.M., DePaul University

SAMUEL F. FURGIUELE, Professor — English
M.Litt., University of Pittsburgh

NORMAN W. GAGGINI, Associate Professor — Physics
B.S., M.S., Indiana University of Pennsylvania

ELEANOR M. GALLATI, Asst. Professor — Home Economics Education
M.Ed., Pennsylvania State University

WALTER W. GALLATI, Professor — Biology
Ph.D., Ohio State University

CLARENCE A. GARVIN, Professor — Economics
Ph.D., University of Tennessee

THOMAS G. GAULT, Professor — Geography & Regional Planning
Ed.D., George Peabody College (Nashville)

VIRGINIA G. GAULT, Instructor — Library
B.S., Middle Tennessee State University

MARION M. GEISEL, Assistant Professor — Director, Psychological Clinic
M.Ed., Indiana University of Pennsylvania

CLYDE C. GELBACH, Professor — History
Ph.D., University of Pittsburgh

VIRGINIA GOULD GERALD, Assoc. Professor — Sociology-Anthropology
M.A., University of Arizona

GAIL J. GERLACH, Associate Professor — University School
M.A., Teachers College, Columbia University

FRANK GHESSIE, JR., Asst. Professor — Business & Distributive Ed.
M.Ed., Pennsylvania State University

RAYMOND D. GIBSON, Associate Professor — Mathematics
M.A., University of Illinois

RALPH M. GLOTT, Professor — Elementary Education
D.Ed., University of Pittsburgh

CHARLES A. GODLASKY, Professor — Health & Physical Education
Ed.D., Penn State University

IRVING GODT, Associate Professor — Music
Ph.D., New York University

LOUIS L. GOLD, Professor — Biology
Ph.D., Ohio State University

WALTER GOLZ, Associate Professor — Music
A.M., Columbia University

THOMAS D. GOODRICH, Professor — History
Ph.D., Columbia University

DOROTHY W. GOURLEY, Associate Professor — English
M.Ed., Indiana University of Pennsylvania

CHARLES CURTIS GRAHAM, Instructor — Criminology
B.A., Point Park College

WALTER GRANATA, Professor — Chairperson, Geoscience
Ph.D., University of Wyoming

BROOKE V. GRANT, Associate Professor — Sociology-Anthropology
M.A., University of Pittsburgh

JOHN GEORGE GRASSINGER, JR., Associate Professor — Library
M.L.S., University of Pittsburgh

JAMES L. GRAY, Professor — English
Ph.D., Duke University

WILLIAM F. GRAYBURN, Professor — English
Ph.D., Pennsylvania State University

RONALD C. GREEN, Professor — Political Science
Ph.D., State University of N.Y. at Albany

WILLIAM G. GRESSLEY, Instructor — Food and Nutrition
B.S., Indiana University of Pennsylvania

ROYDEN P. GROVE, Asst. Professor — Health & Physical Education
M.Ed., Ohio University

DAVID E. GROVER, Professor — Psychology
Ph.D., University of Kentucky

DANIEL S. GRUBB, Professor — English
Ph.D., University of Michigan

CAROLYN R. GRUNDY, Assistant Professor — Library
M.S.L.S., University of Illinois

ANTONIO M. GUARDIOLA, Associate Professor — Romance and Classical Languages
Doctor en Pedagogia, University of Habana (Cuba)

AURORA P. GUARDIOLA, Assistant Professor — Romance and Classical Languages
Doctor en Pedagogia, University of Habana (Cuba)

HARRY W. HALDEMAN, Associate Professor — English
M.A., Pennsylvania State University

FRANK W. HALL, II, Professor — Geoscience
Ph.D., University of Montana

ROBERT W. HAMILTON, Assistant Professor — Art
M.Ed., Indiana University of Pennsylvania

MARGARET HANDRAHAN, Instructor — Consumer Services
M.S., University of Wisconsin — Stout

MARY M. HART, Assistant Professor — Nursing
M.Ed., University of Pittsburgh

RICHARD A. HARTLINE, Professor — Chemistry
Ph.D., University of California

MARLIN E. HARTMAN, Professor — Mathematics
D.Ed., University of Pittsburgh

E. SAMUEL HATFIELD, Associate Professor — History
A.M., West Virginia University

JOHN J. HAYS, Professor — Educational Psychology
Ph.D., University of North Carolina

MALCOLM R. HAYWARD, III, Assistant Professor — English
Ph.D., Tulane University

RICHARD HAZLEY, Professor — English
A.M., Columbia University

NOLAND R. HEIDEN, Assoc. Professor — Geography & Regional Planning
Ph.D., University of Michigan

RICHARD F. HEIGES, Professor — Chairperson, Department of Political Science
Ph.D., Ohio State University

JACKSON W. HEIMER, Professor — English
Ph.D., University of Cincinnati

ISABEL T. HELMRICH, Associate Professor — Educational Psychology
M.Ed. University of Pittsburgh

WILLARD W. HENNEMANN, JR., Professor — Mathematics
Ph.D., Cornell University

ANITA C. HENRY, Associate Professor — Romance & Classical Languages
M.A., Emory University

ROBERT M. HERMANN, Professor — Chairperson, Department of Philosophy
Ph.D., University of Pittsburgh

KENNETH E. HERSHMAN, Associate Professor — Physics
Ph.D., Purdue University

PAUL R. HICKS, Assistant Professor — Library
M.A.L.S., George Peabody College for Teachers

HARRY G. HOLT, Associate Professor — Economics
M.S., Bucknell University

OLIVE M. HOLT, Assistant Professor — Nursing
M.S.N., University of Pennsylvania

HARVEY S. HOLTZ, Instructor — Sociology Anthropology
M.A., City College of New York

JAMES D. HOOKS, Associate Professor — Library
M.L.S., University of Pittsburgh

RICHARD HORNFECK, Assoc. Professor — Health & Physical Education
M.S., The George Washington University

HELEN B. HOVIS, Assistant Professor — Home Economics Education
M.Ed., Pennsylvania State University

LEON J. HUE, Associate Professor — Biology
M.Ed., Pennsylvania State University

MARVIN HUFF, Associate Professor — Economics
M.Ed., Westminster College

H. EUGENE HULBERT, Professor — Music
Ph.D., West Virginia University

JAN G. HUMPHREYS, Professor — Biology
Ph.D., Virginia Polytechnic Institute

JAMES M. INNES, Associate Professor — Art
M.F.A., Kansas City Art Institute

DOMINIC J. INTILI, Associate Professor — Music
Mus M., Oberlin Conservatory of Music

HERBERT EUGENE ISAR, Professor — Romance & Classical Languages
Ph.D., University of Pennsylvania

D. ROBERT JACOBS, Professor — Psychology
Ph.D., Wayne State University

CRAWFORD W. JOHNSON, Associate Professor — Director EOP
M.A., Atlanta University

GEORGE B. JOHNSON, Associate Professor — Art
M.F.A., Indiana University Bloomington, Indiana

HUGH B. JOHNSON, JR., Professor — Music
D.M.E., Indiana University, Bloomington, Indiana

ROBERT G. JOHNSON, Professor — English
Ph.D., Bowling Green University

RALPH L. JOHNSON, Asst. Professor — Health & Physical Education
M.Ed., Slippery Rock State College

FOSTER T. JONES, Assoc. Professor — Romance & Classical Languages
M.A., Indiana University

RONALD A. JULIETTE, Assistant Professor — Learning Resources & Mass Media
M.S., Indiana University at Bloomington

JOHN F. KADLUBOWSKI, Associate Professor — History
M.A., University of Maryland

MARY C. KATZBECK, Associate Professor — Chairperson, Nursing
M.S., Indiana University, Bloomington

STUART KATZMAN, Assistant Professor — Criminology
M.P.A., John Jay College of Criminal Justice

DAVID KAUFMAN, Associate Professor — Library
M.L.S., Carnegie Institute of Technology

WILLARD J. KAYLOR, Assoc. Professor — Health & Physical Education
M.A., George Peabody College for Teachers

ALMA B. KAZMER, Associate Professor — Chairperson, Home Economics Education
M.Ed., Pennsylvania State University

DAVID SHANKLAND KEENE, Professor — Political Science
Ph.D., Princeton University

ROBERT L. KING, Professor — Elementary Education
Ed.D., Pennsylvania State University

ROBERT J. KIRBY, JR., Assistant Professor — Library
M.S.L.S., Catholic University of America

THOMAS L. KISTNER, Associate Professor — Military Science
B.A., Saint Marys University

STEVEN C. KLEIN, Associate Professor — History
Ph.D., University of Kansas

MERLE G. KLINGINSMITH, Assistant Professor — Learning Resources
M.Ed., Pennsylvania State University

RICHARD S. KNAB, Associate Professor — Chairperson, Music
D.M.E., Indiana University, Bloomington, Indiana

RICHARD W. KOLACZKOWSKI, Professor — Chemistry
Ph.D., Cornell University

L. JUNE KORAB, Assistant Professor — Health & Physical Education
M.S., Indiana University, Bloomington

BARBARA KRASZEWSKI, Assistant Professor — English
M.A., Carnegie-Mellon University

HELEN M. KRESAK, Assistant Professor — Nursing
M.P.H., University of Pittsburgh

VANCE R. KRITES, Associate Professor — Political Science
M.A., Central Michigan University

JOSEPH S. KRUPNIK, Associate Professor — English
M.A., Pennsylvania State University

JACK KUHNS, Associate Professor — Elementary Education
Ed.M., University of Pittsburgh

GOPAL S. KULKARNI, Professor — Geography & Regional Planning
Ph.D., University of Pittsburgh

FRANK E. LANDIS, Assoc. Professor — Romance & Classical Languages
M.Litt., University of Pittsburgh

DALE E. LANDON, Professor — History
Ph.D., University of Illinois

BETTY B. LANHAM, Professor — Sociology-Anthropology
Ph.D., Syracuse University

ROBERT J. LAUDA, Professor — Chairperson, Safety Sciences
Ph.D., Iowa State University

JACK LAVENBURG, Associate Professor — Learning Resources & Mass Media
Ed.D., University of Oregon

TERRY C. LEE, Assistant Professor — Safety Sciences
M.S., University of Pittsburgh

NEIL B. LEHMAN, Professor — History
Ph.D., Ohio State University

ANTHONY F. LENZI, Professor — Chairperson, Military Science
M.A., University of Detroit

EUGENE E. LEPLEY, Professor — Health & Physical Education
Ed.D. West Virginia University

JANIS M. LESNESKI, Instructor — Learning Resources
M.S., Indiana University of Pennsylvania

ROBERT M. LETSO, Instructor — Athletics
M.Ed., Indiana University of Pennsylvania

WILLIAM J. LEVENTRY, Assoc. Professor — Educational Psychology
Ed.M., University of Pittsburgh

FRANCIS W. LIEGEY, Professor — Chairperson, Biology
Ph.D., St. Bonaventure University

TIAN-MIN LIN, Associate Professor — Philosophy
Ph.D., Boston Univ.

C. T. LINDH, Associate Professor — Business Management
M.S., Duquesne University; C.P.A.

WILLIAM C. LINDSEY, Instructor — Counselor, EOP
B.S., Howard University

DOROTHY I. LINGENFELTER, Assoc. Professor — University School
M.Ed., Indiana University of Pennsylvania

RENEE LISCINSKY, Assoc. Professor — Romance & Classical Languages
Doctorat de cycle, University of Besancon, France

VICTOR LISCINSKY, Associate Professor — Health & Physical Education
L.P.T., University of Pittsburgh

ROBERT I. LLOYD, Assistant Professor — Music
M.S., Julliard School of Music

PATRICIA LOMMOCK, Associate Professor — Health & Physical Education
M.Ed., University of Pittsburgh

WILLIAM F. LONG, SR., Associate Professor — Mathematics
M.A., Bucknell University

P. DAVID LOTT, Professor — Elementary Education
D.Ed., Pennsylvania State University

ALWYN LOUDEN, Associate Professor — Sociology-Anthropology
M.Ed., University of Pittsburgh

JOANNE P. LOVETTE, Associate Professor — Art
D.A., Carnegie-Mellon University

ONEIDA I. LOZADA, Asst. Professor — Romance & Classical Languages
Doctor En Pedagogia, University of Havana

A. LYNNE LUCAS, Assistant Professor — Library
M.L.S., University of Pittsburgh

BEVERLY J. LUCAS, Assoc. Professor — Health & Physical Education
M.Ed., Pennsylvania State University

JOAN Y. LUCHSINGER, Instructor — Music
M.M., University of Illinois

SANDRA JOYCE LYNN, Asst. Professor — Chairperson, Consumer Services
M.S., Auburn University

DONALD M. MacISAAC, Associate Professor — Learning Resources
M.S., Syracuse University

CHARLES R. MADERER, Associate Professor — Mathematics
M.A.T., Brown University

RICHARD D. MAGEE, Professor — Chairperson, Psychology
Ph.D., Temple University

RICHARD S. MAGEE, Instructor — Biology
B.A., Pennsylvania State University

CHARLES MAHAN, Assistant Professor — English
M.A., University of Kentucky

DONALD C. MAHAN, Associate Professor — Business and Distributive Education
M.Ed., Indiana University of Pennsylvania

W. DELIGHT MALITSKY, Associate Professor — Music
M.A., Manhattan School of Music

KATHERYNE MALLINO, Associate Professor — Library
M.S.L.S., Drexel Institute of Technology

JAMES H. MAPLE, Associate Professor — Computer Science
M.A., Bowling Green State University

IRWIN MURRAY MARCUS, Professor — History
Ph.D., Lehigh University

RONALD L. MARKS, Professor — Chemistry
Ed.D., Pennsylvania State University

GRACE MARLIN, Instructor — University School
M.Ed., Indiana University of Pennsylvania

ARTHUR H. MARTEL, Associate Professor — Economics
Ph.D., University of Massachusetts

LILLIAN G. MARTIN, Associate Professor — University School
M.Ed., Pennsylvania State University

JOSEPH M. MASTRO, Associate Professor — History
M.E., University of Pittsburgh

JOHN K. MATOLYAK, Associate Professor — Physics
Ph.D., West Virginia University

GEORGE M. MATOUS, Associate Professor — Physics
Ph.D., University of Notre Dame

DANIEL V. MATTOX, JR., Professor — Chairperson, Learning Resources & Mass Media
Ph.D., Pennsylvania State University

CHARLES MAWHINNEY, Associate Professor — Business Management
M.B.A., University of Pittsburgh

RICHARD D. McAFOOSE, Associate Professor — Business Management
Litt.M., University of Pittsburgh

DOYLE RICHARD McBRIDE, Associate Professor — Mathematics
M.A.T., Indiana University, Bloomington, Indiana

RONALD L. McBRIDE, Professor — Mathematics
Ph.D., University of Oklahoma

MICHAEL A. McCAFFREY, Assistant Professor — Business Management
MBA, University of Pennsylvania

C. ELIZABETH McCAULIFF, Professor — Health & Physical Education
D.P.E., Springfield College

ROBERT E. McCLAY, JR., Associate Professor — Safety Sciences
M.S., North Carolina State University

ELSIE M. McCLELLAND, Assoc. Professor — Business & Distributive Ed
M.Ed., Pennsylvania State University

A. RICHARD McCLURE, Assistant Professor — Business
M.Ed., Indiana University of Pennsylvania

DONALD S. McCLURE, Associate Professor — English
Ph.D., Vanderbilt University

RONALD E. McCOY, Associate Professor — Mathematic
D.Ed., Pennsylvania State University

JOHN M. McCREA, Associate Professor — Chemistr
Ph.D., University of Chicago

DONALD C. McFEELY, Professor — Elementary Educatio
Ph.D., University of Maryland

VICTOR D. McGUIRE, JR., Asst. Professor — Chairperson, Criminology
M.P.A., University of Georgia

DONALD R. McKELVEY, Professor — Chemistry
Ph.D., Carnegie-Mellon University

JOHN J. McMANMON, Professor — English
Ph.D., University of Chicago

MARK E. McNABB, Assistant Professor — Criminology
M.A., Adams State College

PATRICK J. McNAMARA, Associate Professor — Physics
M.S., University of Detroit

C. DAVID McNAUGHTON, Professor — Music
Ph.D., New York University

BRUCE A. MEADOWCROFT, Professor — Chairperson, Educational Psychology
Ed.D., University of Pittsburgh

RICHARD P. MEASE, Associate Professor — Special Education
Ph.D., University of Iowa

EDWARD R. MELODINI, Assistant Professor — Criminology
M.Ed., Duquesne University

CRUZ MENDIZABAL, Professor — Romance & Classical Languages
Doctor en Filosofia y Letras, Universidad Javeriana, Bogota (Colombia)

ROBERT E. MERRITT, Professor — Biology
Ph.D., University of Tennessee

JOHN E. MERRYMAN, Professor — Foundations of Education
Ph.D., University of Pittsburgh

EDWARD MILEFF, Professor — Health & Physical Educetion
Ed.D., Boston University

JAMES G. MILL, JR., Assoc. Professor — Health & Physical Education
M.Ed., Temple University

BENJAMIN T. MILLER, Associate Professor — Chairperson, Art
M.F.A., Carnegie-Mellon University

JAMES H. MILLER, Associate Professor — Biology
M.A., Stanford University

LARRY CARL MILLER, Professor — History
Ph.D., Northwestern University

LAURABEL H. MILLER, Assistant Professor — English
M.Ed., Indiana University of Pennsylvania

VINCENT P. MILLER, JR., Professor — Geography & Regional Planning
Ph.D., Michigan State University

ROBERT E. MILLWARD, Associate Professor — Elementary Education
Ed.D., Pennsylvania State University

GEORGE R. MILTZ, Professor — Romance & Classical Languages
M.A., University of Cincinnati

SHARON MONTGOMERY, Professor — Philosophy
Ph.D., University of Pennsylvania

ARCHIE F. MOORE, Assistant Professor — Health & Physical Education
M.S., Springfield College

EDGAR W. MOORE, Associate Professor — History
M.A., University of Wisconsin, Milwaukee

ROBERT N. MOORE, Professor — Biology
M.S., Bucknell University

BERNARD A. MOREAU, Assoc. Professor — Business & Distributive Ed.
D.Ed., University of Pittsburgh

WALLACE F. MORRELL, Associate Professor — Mathematics
M.S., Clerkson College of Technology

MORTON MORRIS, Professor — Special Education
Ed.D., Columbia University

ROBERT L. MORRIS, Professor — Political Science
Ph.D., West Virginia University

EDWARD R. MOTT, Professor — Elementary Education
Ed.D., Pennsylvania State University

JOANNE MUELLER, Associate Professor — Methematics
M.S., Montana State University

MARIAN A. MURRAY, Professor — Nursing
Ph.D., University of Pittsburgh

ANTHONY J. NANIA, Professor — English
M.A., Marquette University

ANTHONY J. NASTASE, Assistant Professor — Biology
M.Ed., Indiana University of Pennsylvania

WILLIAM A. NEAL, Assoc. Professor — Health & Physical Education
M.A., The George Washington University

DEANNA J. NELSON, Associate Professor — Chemistry
Ph.D., Indiana University

LINDA SHEARER NELSON, Assistant Professor — Home Economics Ed.
M.S., Cornell University

LOIS A. NESBITT, Asst. Professor — Health & Physical Education
M.A., Slippery Rock State College

GINI G. NEWELL, Instructor — Special Education
M.Ed., Indiana University of Pennsylvania

ESKO E. NEWHILL, Professor — Sociology-Anthropology
Ph.D., Syracuse University

JAMES NIX, Assistant Professor — English
M.A., Northwestern University

CARL P. OAKES, Associate Professor — Mathematics
M.Ed., Pennsylvania State University

ANJA H. OLIN-FAHLE, Assoc. Professor — Sociology-Anthropology
M.A., Haverford College

JAMES M. OLIVER, Professor — Assistant Chairperson, History
Ph.D., University of Missouri

GARY JAMES OLMSTEAD, Associate Professor — Music
D.M.A., Cleveland Institute of Music/Case Western Reserve University

IVO OMRCANIN, Professor — German & Russian Languages
Ph.D., Gregorian University

MARGARET S. OMRCANIN, Professor — English
Ph.D., University of Illinois

LUDO op de BEECK, Professor — Chairperson, Romance & Classical Languages
Ph.D., University of Pittsburgh

DOROTHY ANN PALMER, Associate Professor — Political Science
M.A., Miami University ((Ohio)

LARRY R. PANAIA, Instructor — Athletics
M.A., Indiana University of Pennsylvania

FREDERICK R. PARK, Associate Professor — Geoscience
M.S., University of Pittsburgh

ROBERT A. PATSIGA, Professor — Chemistry
Ph.D., State University College of Forestry, Syracuse University

PATRICIA L. PATTERSON, Professor — Business Education
Ph.D., University of Pittsburgh

GARY W. R. PATTON, Professor — Psychology
Ph.D., Tufts University

JAMES EDWARD PAYNE, Professor — Geography & Regional Planning
A.M., University of North Carolina

GERARD C. PENTA, Associate Professor — Chairperson, Foundations o Educatio
Ph.D., Michigan State University

LAURENCE JOHN PERKINS, Assistant Professor — Musi
M.M., Eastman School of Music

DANIEL PERLONGO, Assistant Professor — Musi
M.M., University of Michigan

SUZANNE PERLONGO, Assistant Professor — Music Librar
M.L.S., University of Michigan

EVERETT J. PESCI, Professor — Counselor Education
Ph.D., West Virginia University

JOSEPH ALEXANDER PETERS, Associate Professor — Mathematics
M.S., University of Illinois

JUNE K. PHILLIPS, Assoc. Professor — Romance & Classical Languages
Ph.D., Ohio State University

JERRY L. PICKERING, Associate Professor — Biology
Ph.D., Rutgers State University

DENTON F. PILLION, Associate Professor — Business Management
Ed.D., Worcester State College; Boston College; Clark University

EDWARD E. PLATT, Professor — Political Science
Ph.D., University of Connecticut

MARK A. PLIVELIC, Associate Professor — Business Management
M.Litt., University of Pittsburgh

RUTH PODBIELSKI, Professor — Associate Director of Athletics, Health & Physical Education
M.Ed., University of Pittsburgh

JOHN A. POLESKY, Assoc. Professor — Business & Distributive Ed.
M.Ed., University of Pittsburgh

ROMAYNE POUNDS, Associate Professor — Special Education
M.Ed., Indiana University of Pennsylvania

PAUL A. PRINCE, Professor — Geoscience
Ed.M., Harvard University

JOHN P. QUIRK, Professor — Educational Psychology
D.Ed., University of Georgia

ROBERT L. RADAKER, Assistant Professor — Psychology
M.Ed., Westminster College

DOWNEY RAIBOURN, Associate Professor — Sociology-Anthropology
M.A., Indiana University (Bloomington)

DAVID L. RAMSEY, Instructor — Physics
B.A., Washington and Jefferson College

CHANCY R. RAWLEIGH, Associate Professor — Sociology-Anthropology
Ph.D., Syracuse University

RICHARD E. RAY, Professor — Chairperson, English
Ph.D., Bowling Green University

KAREN E. READY, Associate Professor — German & Russian Language
M.A., Middleburg College

CLARICE K. REBER, Assistant Professor — Special Education
M.S., University of Michigan

JAMES C. REBER, Associate Professor — Mathematics
Ph.D., Duke University

JOHN WALLING REID, Professor — Psychology
Ed.D., Columbia University

L. LEON REID, Professor — Special Education & Clinical Services
Ph.D., University of Texas

MILDRED M. REIGH, Professor — Mathematics
M.Ed., Pennsylvania State University

JAMES B. REILLY, Professor — Elementary Education
Ed.D., West Virginia University

DAVID L. REIMOLD, Assistant Professor — Military Science
B.A., Bloomsburg State College

WILLIAM L. RETTIG, Associate Professor — Mathematics
Ph.D., Ohio State University

DAVID M. RIBAN, Professor — Physics
Ph.D., Purdue University

ALEXANDER R. RICH, Assistant Professor — Psychology
M.A., Kent State University

WILLIS J. RICHARD, Associate Professor — Economics
M.A., Iowa State University

J. MERLE RIFE, Professor — Acting Assoc. Dean, Social Sciences
Ph.D., Ohio State University

WANDA RIFE, Assistant Professor — Library
M.S.L.S., Case Western Reserve University

ARLENE RISHER, Assistant Professor — Business Education
M.Ed., University of Pittsburgh

ROBERT H. RITTLE, Associate Professor — Psychology
Ph.D., Kent State University

JOSEPH S. RIZZO, Associate Professor — Elementary Education
Ph.D., University of Maryland

DONALD J. ROBBINS, Assoc. Professor — Chairperson, Business Management
M.Ed., Indiana University of Pennsylvania

RICHARD D. ROBERTS, Associate Professor — Physics
M.S., Pennsylvania State University

BERNARD ROFFMAN, Assoc. Professor — German & Russian Languages
M.A., Fordham University

ROSALY ROFFMAN, Assistant Professor — English
M.A., University of Hawaii

DOUGLAS A. ROSS, Professor — Psychology
Ph.D., Lehigh University

FRANK ROSS, Professor — Art
D.A., Carnegie-Mellon University

DAVID E. ROTIGEL, Professor — Foundations of Education
Ed.D., University of Illinois

PHYLLIS ROUMM, Associate Professor — English
M.Ed., Indiana University of Pennsylvania

PHILLIP A. RUFFNER, Instructor — English
M.Ed., Indiana University of Pennsylvania

LOIS B. RUPERT, Associate Professor — Home Economics Education
M.S., Carnegie-Mellon University

HOWARD A. RUSSELL, Associate Professor — Art
D.A., Carnegie-Mellon University

ROBERT RUSSELL, Assistant Professor — English
M.A.T., Indiana University

STEPHEN K. SANDERSON, Asst. Professor — Sociology-Anthropology
Ph.D., University of Nebraska

NORMAN W. SARGENT, Professor — Learning Resources & Mass Media
Ed.D., Indiana University

NICOLO A. SARTORI, Assistant Professor — Music
M.M., University of Michigan

ROBERT H. SAYLOR, Professor — Counselor Education
Ed.D., Pennsylvania State University

EUGENE F. SCANLON, Professor — Chairperson, Special Education
D.Ed., Pennsylvania State University

R. THOMAS SCHAUB, Associate Professor — Philosophy
S.S.L., Pontifical Biblical Commission, Rome

JOAN SCHMITT, Instructor — Consumer Services
M.A., Michigan State University

MARTHA S. SCHEEREN, Assistant Professor — Library
M.S.L.S., University of Pittsburgh

CARL W. SCHNEIDER, Professor — Psychology
Ph.D., Michigan State University

DOROTHY N. SCHROCK, Assistant Professor — Business and Distributive Education
M.Ed., University of Pittsburgh

GOULD F. SCHROCK, Professor — Biology
Ph.D., University of Chicago

JOHN H. SCROXTON, Associate Professor — Chemistry
M.S., Alfred University

GEORGE K. SEACRIST, Associate Professor — English
M.Litt., University of Pittsburgh

ROBERT C. SEELHORST, Professor — Assistant Chairperson, Ar
Ed.D., Pennsylvania State University

FREDERICK W. SEINFELT, Professor — Englis
Ph.D., Pennsylvania State University

DALE M. SHAFER, Professor — Mathematics
Ph.D., University of Oklahoma

RONALD G. SHAFER, Professor — English
Ph.D., Duquesne University

ESTHER SHANE, Assistant Professor — Speech and Hearing
M.S., West Virginia University

MILDRED NOBLE SHANK, Associate Professor — Educational Psychology
M.A., Columbia University

JAMES O. SHANNON, Assistant Professor — Criminology
M.S., Police Administration, Washington State University

SATYA SHARMA, Associate Professor — Consumer Services
Ph.D., Ohio State University

MAHER Y. SHAWER, Professor — Mathematics
Ph.D., University of Oklahoma

JACK L. SHEPLER, Professor — Mathematics
Ph.D., University of Wisconsin

DAVID L. SHIELDS, Assoc. Professor — Romance & Classical Languages
M.A. Middlebury College

KENNETH LEE SHILDT, Associate Professor — Assistant Chairperson, Business Management
M.S., Pennsylvania State University

RUTH I. SHIREY, Assoc. Professor — Geography & Regional Planning
Ph.D., University of Tennessee

DANIEL C. SHIVELY, Associate Professor — Library
M.S.L.S., Drexel Institute of Technology

CHARLES J. SHUBRA, JR., Assistant Professor — Computer Science
M.S., Pennsylvania State University

RONALD E. SIMKINS, Associate Professor — Food and Nutrition
M.Ed., Westminster College

NORMAN SLACK, Assistant Professor — Consumer Services
M.A., Western Michigan University

HERMAN L. SLEDZIK, Professor — Athletic Director/ Health and Physical Education
M.Ed., Pennsylvania State University

JEAN J. SLENKER, Associate Professor — Art
M.A., Professional Diploma, Teachers College, Columbia University

ROBERT EUGENE SLENKER, Associate Professor — Art
M.A., Professional Diploma, Teachers College, Columbia University

EDWARD L. SLONIGER, Professor — Health & Physical Education
Ph.D., University of Illinois

BERT A. SMITH, Associate Professor — Political Science
M.A., University of Missouri

EDWIN SMITH, Professor — Mathematics
Ed.D., Ball State University

HELENA M. SMITH, Professor — English
Ph.D., Pennsylvania State University

WILLIAM R. SMITH, Professor — Mathematics
Ed.M., Harvard University

W. WAYNE SMITH, Professor — History
Ph.D., University of Maryland

MARIE E. SNEAD, Associate Professor — Library
A.M.L.S., University of Michigan

KAY SNYDER, Assistant Professor — Sociology-Anthropology
Ph.D., Cornell University

HAROLD M. SOMMER, Assoc. Professor — German & Russian Languages
Ed.D., University of Georgia

ANTHONY J. SORENTO, Associate Professor — Romance & Classical Languages
Doctor of Romance Philology, University of Madrid

ELWOOD R. SPEAKMAN, Associate Professor — Mathematics
M.A.T., Brown University

LESLIE S. SPENCER, Associate Professor — Business Management
M.B.A., Syracuse University

JOSEPH B. SPIEKER, Assoc. Professor — Romance & Classical Languages
Ph.D., Catholic University

GEORGE L. SPINELLI, Professor — Chairperson, Counselor Education
Ed.D., University of Pittsburgh

VIRGINIA S. SPRENKEL, Assistant Professor — Nursing
M.N., University of Pittsburgh

KATHERINE L. STAHLMAN, Instructor — Food and Nutrition
M.S., Case Western Reserve University

JAMES G. STAPLES, Associate Professor — Music
D.M.A., Eastman School of Music

MARTIN L. STAPLETON, Professor — Biology
Ed.D., Pennsylvania State University

JOANNE B. STEINER, Instructor — Food and Nutrition
M.S., University of Wisconsin

RONALD A. STEINER, Assoc. Professor — Assoc. Director of Libraries
M.S.L.S., Case Western Reserve University

MARILYN S. STERNGLASS, Associate Professor — English
Ph.D., University of Pittsburgh

CHARLES B. STEVENSON, Associate Professor — Business Management
M.A. George Washington University

MERLE STILWELL, Professor — Mathematics
Ph.D., Cornell University

LLOYD K. STIRES, Professor — Psychology
Ph.D., Duke University

ROBERT J. STONEBRAKER, Associate Professor — Economics
Ph.D., Princeton University

RICHARD M. STRAWCUTTER, Professor — Biology
A.M., Columbia University

DONNA L. STREIFTHAU, Professor — Consumer Services
Ph.D., Ohio State University

ROBERT S. STROCK, Assistant Professor — Business Management
M.Ed., Shippensburg State College

ALVIN J. STUART, Professor — Elementary Education
Ph.D., Ohio University

ELEANOR B. SUHRIE, Associate Professor — Nursing
Ph.D., University of Pittsburgh

CONNIE J. SUTTON, Assistant Professor — Geoscience
M.Ed., Indiana University of Pennsylvania

LOUIS R. SUTTON, Professor — Health & Physcial Educatior
Ed.D., West Virginia University

CRAIG G. SWAUGER, Professor — Englis
Ed.D., University of Pittsburgh

DAVID SWEET, Instructor — Criminology
A.M., University of Chicago

FORD HARRIS SWIGART, JR., Professor — Englis
Ph.D., University of Pittsburgh

AUGUSTA SYTY, Professor — Chemistr
Ph.D., University of Tennessee

STANFORD L. TACKETT, Professor — Chairperson, Chemistr
Ph.D., Ohio State University

HEDWIG TEGLASI, Assistant Professor — Psycholog
Ph.D., Hofstra University

LEONARD P. TEPPER, Assoc. Professor — Geography & Regional Plannin
Ph.D., University of Pittsburgh

CAROL A. TETI, Associate Professor — Mus
D.M.A., University of Michigan

EUGENE F. THIBADEAU, Professor — Foundations of Educatic
Ph.D., New York University

JOANN E. THISTELTHWAITE, Instructor — Nursi
B.S.N., Pennsylvania State University

RAYMOND L. THOMAS, Professor — English
Ph.D., Pennsylvania State University

RICHARD E. THORELL, Assistant Professor — Music
M.Ed., University of Rochester

GORDON F. THORNTON, Associate Professor — Psychology
Ph.D., Ohio University

GERALD L. THORPE, Professor — Political Science
M.A.T., Harvard University

DENNIS D. TIGER, Professor — Chairperson, Business & Distributive Education
D.Ed., University of Pittsburgh

WARNER E. TOBIN, Professor — Director of University School
D.Ed., Penn State

HOWARD E. TOMPKINS, Professor — Chairperson, Computer Science
Ph.D., University of Pennsylvania

ELIZABETH TROXELL, Associate Professor — Mathematics
M.Ed., Pennsylvania State University

J. DAVID TRUBY, Professor — English
Ph.D., Pennsylvania State University

LAWRENCE R. TUCKER, Assoc. Professor — Health & Physical Education
M.S., Ohio State University

HENRY H. VALLOWE, Professor — Biology
Ph.D., University of Chicago

LEON D. VANDECREEK, Professor — Psychology
Ph.D., University of South Dakota

MURRAY M. VARNER, Assistant Professor — Business & Distributive Education
M.E., University of Pittsburgh

RICHARD VEXLER, Assistant Professor — Sociology Anthropology
M.A., University of Pittsburgh

LESLIE VICKERS, JR., Assistant Professor — Special Education
M.Ed., Indiana University of Pennsylvania

FRANK A. VIGGIANO, JR., Instructor — Consumer Services
M.S., University of Wisconsin – Stout

ROBERT J. VISLOSKY, Professor — Art
D.Ed., Pennsylvania State University

JACOB U. VOELKER, Assoc. Professor — German & Russian Languages
M.A., University of Notre Dame

DOROTHY C. VOGEL, Professor — History
Ph.D., New York University

EVA VOUKLIZAS, Associate Professor — Music
M.M., Indiana University

JAMES A. WADDELL, Associate Professor — English
M.A., University of North Carolina

RICHARD F. WAECHTER, Professor — Biology
D.Ed., Pennsylvania State University

SUSAN C. WAGNER, Instructor — Library
M.L.S., University of Pittsburgh

DONALD A. WALKER, Professor — Chairperson, Economics
Ph.D., Harvard

EDWARD D. WALSH, Assistant Professor — Military Science
B.S., University of San Francisco

JOANN E. WALTHOUR, Assistant Professor — University School
M.M.E., University of Pittsburgh

GEORGE B. WALZ, Professor — Psychology
Ph.D., Lehigh University

STEPHEN B. WARE, Associate Professor — Economics
B.A., Ohio Wesleyan University

HELEN LOUISE WARREN, Assistant Professor — English
M.Ed., Indiana University of Pennsylvania

JANE WASHBURN, Associate Professor — Counselor Education
M.Ed., Indiana University of Pennsylvania

WILLIAM M. WASKOSKIE, Associate Professor — Biology
M.Litt., University of Pittsburgh

JOHN G. WATTA, Assistant Professor — English
M.Litt., University of Pittsburgh

CALVIN E. WEBER, Professor — Assistant Chairperson, Music
Ed.D., University of Illinois, Urbana

CHARLES E. WEBER, Professor — Geography & Regional Planning
Ed.D., Columbia University

WILLIAM F. WEGENER, Associate Professor — Criminology
A.M., Colorado State College

RONALD M. WEIERS, Assistant Professor — Business Management
M.S., Massachusetts Institute of Technology

KATHRYN WELDY, Assistant Professor — English
M.A., Middlebury College

NED O. WERT, Assistant Professor — Art
M.Ed., Pennsylvania State University

JACK R. WESTWOOD, Associate Professor — Mathematics
M.S., Bucknell University

ROBERT L. WHITMER, Assoc. Professor — Romance & Classical Languages
Ph.D., University of Pittsburgh

DENNIS W. WHITSON, Associate Professor — Physics
Ph.D., University of Pittsburgh

JAMES HERBERT WILDEBOOR, Associate Professor — Music
M.M.E., University of Kansas

GEORGE T. WILEY, Professor — Chairperson, History
Ph.D., Western Reserve University

GUY HOLLAND WILLIAMS, III, Instructor — Criminology
B.A., Allegheny College

LINDA S. WILLIAMS, Associate Professor — Elementary Education
M.Ed., University of Pittsburgh

ROGER N. WILLIAMS, JR., Associate Professor — German & Russian Languages
M.A., Pennsylvania State University

HALLEY O. WILLISON, JR., Associate Professor — Mathematics
M.Litt., University of Pittsburgh

EDWARD D. WILSON, Professor — Political Science
Ph.D., University of Oklahoma

JAMES C. WILSON, Professor — Counselor Education
Ed.D., University of Pittsburgh

T. KENNETH WILSON, Associate Professor — English
B.A., University of Buffalo

DAVID C. WINSLOW, Professor — Geography & Regional Planning
Ph.D., Clark University

EDWARD G. WOLF, Professor — Library
Ph.D., University of Pittsburgh

RICHARD E. WOLFE, Professor — Mathematics
Ph.D., University of Illinois

BETTY LOU WOOD, Instructor — Consumer Services
M.Ed., Indiana University of Pennsylvania

SUSAN E. WOOD, Assoc. Professor — Geography & Regional Planning
M.A., Kent State University

MELVIN R. WOODARD, Professor — Chairperson, Mathematics
Ed.D., Oklahoma State University

ALLEN M. WOODS, Assoc. Professor — Chairperson, Food & Nutrition
M.Ed., University of Pittsburgh

DON W. WOODWORTH, Associate Professor — English
M.A., Indiana University

DALE W. WOOMER, Professor — Business & Distributive Educatio
D.Ed., Pennsylvania State University

JOHN C. WORZBYT, Professor — Counselor Educatio
Ed.D., University of Rochester

HELEN J. WRIGHT, Associate Professor — Nursir
M.Ed., Duquesne University

PAUL R. WUNZ, JR., Professor — Chemist
Ph.D., University of Delaware

JOHN A. YACKUBOSKEY, Assistant Professor — History
M.A., Emory University

MYRON M. YAGEL, Associate Professor — Special Education & Clinical Services
Ed.D., University of Virginia

JOAN R. YANUZZI, Professor — Educational Psychology
Ph.D., Cornell University

ROBERT YARUP, Assistant Professor — English
M.A., West Virginia University

HAROLD J. YOUCIS, Professor — Foundations of Education
Ed.D., Indiana University

DAVID L. YOUNG, Professor — English
Ph.D., Ohio State University

MAURICE M. ZACUR, Professor — Chairperson, Geography & Regional Planning
D.Ed., Pennsylvania State University

GENO ZAMBOTTI, Associate Professor — Chemistry
M.Ed., Indiana University of Pennsylvania

CYRIL J. ZENISEK, Professor — Biology
Ph.D., Ohio State University

DONALD N. ZIMMERMAN, Professor — Chemistry
Ph.D., West Virginia University

Adjunct Professors – Allied Health Professions

The individuals named below provide programs affiliated solely with Indiana University of Pennsylvania. Administrators and teaching staffs of other hospital schools are awarded Adjunct Professorships in years when Indiana students are in attendance.

GARY W. AMBERSON
Assistant Director, School of Respiratory Therapy, The Western Pennsylvania Hospital, Pittsburgh, Pennsylvania

CLAUS L. ANDERSON
Lecturer in Pulmonary Medicine, School of Respiratory Therapy, The Western Pennsylvania Hospital, Pittsburgh, Pennsylvania, M.D., Temple University

THOMAS E. BAGEANT
Instructor, School of Respiratory Therapy, The Western Pennsylvania Hospital, Pittsburgh, Pennsylvania

GRAYCE BELL
Director, Cardiopulmonery Laboratory, The Western Pennsylvania Hospital, Pittsburgh, Pennsylvania

THOMAS CARLISLE
Associate Director, Cardiopulmonary Laboratory, The Western Pennsylvania Hospital, Pittsburgh, Pennsylvania

JOAN A. GROTE
Assistant to the Educational Coordinator, School of Medical Technology, Latrobe Area Hospital, M.T. (A.S.C.P.)

EDWARD H. HALE
Lecturer in Internal Medicine, School of Respiratory Therapy, The Western Pennsylvania Hospital, Pittsburgh, Pennsylvania; M.D., Meharry Medical College

BILL L. HAMILTON
Assistant Director, The Western Pennsylvania Hospital, M.S., Washington University, M.S., St. Louis, Missouri

DAVID C. HENRY
Instructor, School of Respiratory Therapy, The Western Pennsylvania Hospital; B.S., Indiana University of Pennsylvania

WILLIAM J. HERBERT, III
Assistant Technical Director, School of Respiratory Therapy The Western Pennsylvania Hospital, Pittsburgh, Pennsylvania A.R.I.T.

NORMA J. HOENSHEL
Educational Coordinator, School of Medical Technology, Latrobe Area Hospital, M.T. (A.S.C.P.)

WALTER W. JETTER
Director of Pathology Laboratories and School of Medical Technology, Latrobe Area Hospital; M.D., University of Buffalo

WILLIAM J. MALLEY
Instructor, School of Respiratory Therapy, The Western Pennsylvania Hospital, Pittsburgh, Pennsylvania; B.S., Indiana University of Pennsylvania

ROBERT A. MARTIN
Technical Director, School of Respiratory Therapy, The Western Pennsylvania Hospital, Pittsburgh, Pennsylvania; B.S., Indiana University of Pennsylvania

JOHN H. SCOTT
Chief of Pulmonary Medicine and Medical Director, School of Respiratory Therapy, The Western Pennsylvania Hospital, Pittsburgh, Pennsylvania, M.D., University of Pittsburgh

LAWRENCE T. SLATTERY
Director, Respiratory Therapy Department, The Western Pennsylvania Hospital, Pittsburgh, Pennsylvania; A.R.I.T.

WILLIAM O. UMIKER
Director, School of Medical Technology, Saint Joseph Hospital, Lancaster, Pennsylvania; M.D., University of Buffalo

SISTER ELLEN PATRICIA
Educational Coordinator, School of Medical Technology, Saint Joseph Hospital, Lancaster, Pennsylvania; B.S., Villanova University

Adjunct Faculty — Baccalaureate Program in Nursing

ELIZABETH R. CANNIZZARO
Director, Ambulatory Care Center, Latrobe Area Hospital; M.S.N., Case Western Reserve University

PHILIP W. CURRIE
Chief of Obstetrics, Latrobe Area Hospital; M.D., University of Pennsylvania

JOHN R. MAZERO
Medical Director, Latrobe Area Hospital; M.D., George Washington University

JOHN S. PARKER
Chief of Medicine, Latrobe Area Hospital; M.D., University of Buffalo

RAY G. SARVER
Chief of Pediatrics, Latrobe Area Hospital; M.D., University of Pennsylvania

JAMES H. TAYLOR
Administrator, Latrobe Area Hospital; M.B.A., University of Pittsburgh

FRANK WEINER
Pediatrician; M.D., Georgetown University

MARY ANN WUYSCIK
Director, Public Health Nursing, Indiana and Armstrong Counties, Pennsylvania Department of Health; M.P.H., University of Pittsburgh

Adjunct Professors — Psychology

JAMES A. BESHAI
Director of Psychology Services at Dixmont State Hospital, Sewickley Pennsylvania; Ph.D., University of Kentucky

JAMES KLINEDINST
Director, Indiana County Guidance Center, Indiana, Pennsylvania Ph.D., University of Minnesota

HERBERT I. LEVIT
Director of Psychology at Allegheny General Hospital, Pittsburgh Pennsylvania; Ed.D., Temple University

ANTHONY J. PALMER
Director of Undergraduate Training, Woodville State Hospital, Carnegi Pennsylvania; Ed.D., West Virginia University

NOEL A. PLUMMER
Director of Psychological Services, Woodville State Hospital, Carnegi Pennsylvania; Ph.D., University of Florida

ALAN W. RUSNAK
Director of Graduate Training, Psychology Department, Woodvi State Hospital, Carnegie, Pennsylvania; Ph.D., University of Florida

FACULTY – MANAGEMENT

FRED DAKAK, Professor – Mgr. Dean of Admissions
Ph.D., Southern Illinois University

HAROLD A. DOCK, Associate Professor – Mgr. Dir. of Professional Laboratory
Ph.D., University of Tennessee

ROBERT H. DOERR, Assoc. Professor – Mgr. Dir., Armstrong Branch Campus
M.Ed., Pennsylvania State University

CHARLES R. FUGET, Professor – Mgr. Associate Dean, Natural Sciences and Mathematics
Ph.D., Pennsylvania State University

BERNARD JAMES GANLEY, Professor – Mgr. Administrative Vice President
M.Ed., University of Pittsburgh

WILLIAM E. LAFRANCHI, Professor – Mgr. Director of Libraries
M.S.L.S., University of Illinois

JAMES W. LAUGHLIN, Professor – Mgr. Dean of Student Services
D.Ed. Pennsylvania State University

ISADORE R. LENGLET, Assoc. Professor – Mgr. Vice President for University Development
M.A., University of Pittsburgh

GEORGE W. MURDOCH, Professor – Mgr. Vice President for Finance
Ph.D., George Washington University

ROBERT O. WARREN, Associate Professor – Mgr. Associate Provost
M. Litt., University of Pittsburgh

RICHARD T. WOLFE, Associate Professor – Mgr. Director of Grants and Awards
B.S., Indiana University of Pennsylvania

ROBERT L. WOODARD, Professor – Mgr. Director of Institutional Research and Planning
Ph.D., Cornell University

FACULTY UNIT II (ADMINISTRATORS)

BRUCE BEAUMONT, Asst Professor – Adm. Assistent Director, Computer Center
B.S., Indiana University of Pennsylvania

LAWRENCE BERGMAN, Assoc. Professor – Adm. Executive Director of University Foundation and Associate Director, Instructional Resources Center
M.Ed., Pennsylvania State University

LYMAN CONNOR, Asst. Professor – Adm. Assistant Director of Admissions
B.S., West Virginia College

THOMAS P. CUNNINGHAM, Assoc Professor – Adm. Asst. Director, Computer Center
M.S., Carnegie-Mellon University

RICHARD A. DiSTANISLAO, Instructor – Adm. Asst. to Director, Kittanning
M.A., Indiana University of Pennsylvania

OWEN J. DOUGHERTY, Assoc. Professor – Adm. Housing Director
M.Ed., Pennsylvania State University

JOHN E. FRANK, Professor – Adm. Director, Counseling Service & Veterans Affairs
Ph.D., Case Western Reserve University

E. SAMUEL HOENSTINE, Professor – Adm. Director of Career Services
D.Ed., University of Pittsburgh

RANDY L. JESICK, Assistant Professor – Adm. Director of Public Information
M.S., West Virginia University

FREDERICK A. JOSEPH, Asst. Professor – Adm. Director of Financial Aid
M.Ed., Kent State

LARRY A. JUDGE, Instructor – Adm. Alumni Director
B.S., Indiana University of Pennsylvania

SHERILL ANNE KUCKUCK, Assoc. Professor – Adm. Dir. Residence Programming
M.Ed. University of Pittsburgh

BARBARA C. KUNZ, Instructor — Adm. — Residence Coordinator
M.A., Ball State University

RONALD LUNARDINI, Instructor — Adm. — Student Affairs
M.Ed. Duquesne University

CLEO McCRACKEN, Assoc. Professor — Adm. — Dean, Student Development
M.Ed., Syracuse University

DONALD S. McPHERSON, Asst. Professor — Adm — Director, Residence Life
M.A., Indiana University of Pennsylvania

PETER F. METARKO, Asst. Professor — Adm. — Associate Director of Admissions
B.S., Northern Michigan University and Mansfield State College

JUDITH A. MOORHEAD, Asst. Professor — Adm. — Dir. of University Relations & Publications
M.A., Indiana University of Pennsylvania

ROY A. MOSS, Assoc. Professor — Adm. — Associate Director of Career Services
M.Ed., University of Pittsburgh

J. ROBERT MURRAY, Professor — Adm. — Dir., Instructional Resources Center
D.Ed., Pennsylvania State University

C. DONALD SEAGREN, Professor — Adm. — Registrar
D.Ed., Pennsylvania State University

FREDERICK A. SEHRING, Asst. Professor — Adm. — Assistant Registrar
M.Ed., University of Pittsburgh

WILLIAM M. SRSIC, Asst. Professor — Adm. — Associate Director, Financial Aid
M.Ed., Edinboro State College

NORMAN STORM, Asst. Professor — Adm. — Acting Dir., Punxsutawney
M.Ed., Indiana University of Pennsylvania

RONALD W. THOMAS, Assoc. Professor — Adm. — Dean of Student Life
Ph.D., University of Pittsburgh

SCUM (STATE COLLEGE/UNIVERSITY MANAGERS)

ROBERT C. WILBURN — President
Ph.D., Princeton University

J. CHRISTOPHER BENZ, Manager VI — Dean, School of Fine Arts
Ed.D., Columbia University

GEORGE W. BILICIC, Manager VI — Dean, School of Continuing Ed.
D.Ed., University of Wyoming

MARGARET BOBERTZ, Manager I — Affirmative Action Director
M.A., University of South Dakota

JOHN CHELLMAN, Manager VI — Dean, School of Health Services
Ed.D., George Peabody College for Teachers

ROBERT E. DAIN, Manager III — Dir. of Punxsutawney Branch Campus
M.A., University of Maryland

JOSEPH M. GALLANAR, Manager VI — Dean, School of Arts & Sciences
Ph.D., The John Hopkins University

ROBERT L. GAYLOR, Manager III — Special Assistant to President and Director of Employee Relations
M.A., St. Francis College

BERNARD T. GILLIS, Manager VII — Academic Vice President and Provost
Ph.D., Wayne State University

S. TREVOR HADLEY, Manager VII — Vice President of Student Affairs
D.Ed., University of Pittsburgh

SUZANNE H. HUDSON, Manager V — Associate Dean, Humanities
Ph.D., Marquette University

M. KATHLEEN JONES, Manager VI — Dean, School of Home Economics
Ph.D., Ohio State University

CHARLES M. KOFOID, Manager V — Dean, School of Education
D.Ed., University of Nebraska

DALE P. MARCHAND, Manager III — Director of Institutional Research
B.S., Point Park College

FRANCIS G. McGOVERN, Manager VI — Dean, Graduate School
Ph.D., Ohio State University

JOHN J. NOLD, Manager V — Director, Computer Center
M.B.A., Duquesne University

CHARLES E. RECESKI, Manager III — Inventory Control Officer
M.Ed., Indiana University of Pennsylvania

ELWOOD B. SHEEDER, Manager VI — Dean, School of Business
Ed.D., University of Pittsburgh

SCUA (STATE COLLEGE/UNIVERSITY ADMINISTRATORS)

DAVID B. BOROFSKY, Adm. I — Acting Director, Punxsutawney Campus
M.Ed., Springfield College, Mass.

JUDITH L. COPE, Adm. II — Director of Adult Education Center
M.Ed., Indiana University of Pennsylvania

BARBARA EISEN, Adm. IV — Assistant Director, Computer Center
A.B., Case Western Reserve University

PATRICIA I. KLUSS, Adm. I — Information & Publications Specialist
B.A., Seton Hall University

WILLIAM J. LESKO, Adm. III — Coordinator of Radio and Television
M.S., Syracuse University

TERRELL O. MARTIN, Adm. III — Director of Special Programs and Organizations
R.Ed., Indiana University, Bloomington

ROBERT L. MARX, Adm. V — Assistant Director of Campus Physical Planning
M.A. Indiana University of Pennsylvania

BRIAN J. McCUE, Adm. II — Dir. of Community – University Studies
M.S., University of Illinois

BONNIE E. MILLER, Adm. I — Residence Coordinator
M.A., Seton Hall University

RONALD MARTINAZZI — Director, Criminology Extension Classes
B.S., California State College; M.A., Indiana University of Pennsylvania

H. BRUCE ZIMMERMAN, Adm. III — Director, Student Activities
M.S.Ed., Indiana University, Bloomington

LANA M. ZINK, Adm. II — Assistant Dean of Admissions
M.S., St. Bonaventure University

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INDIANA UNIVERSITY OF PENNSYLVANIA

INDIANA, PENNSYLVANIA

BUILDING LOCATION MAP

PREPARED BY
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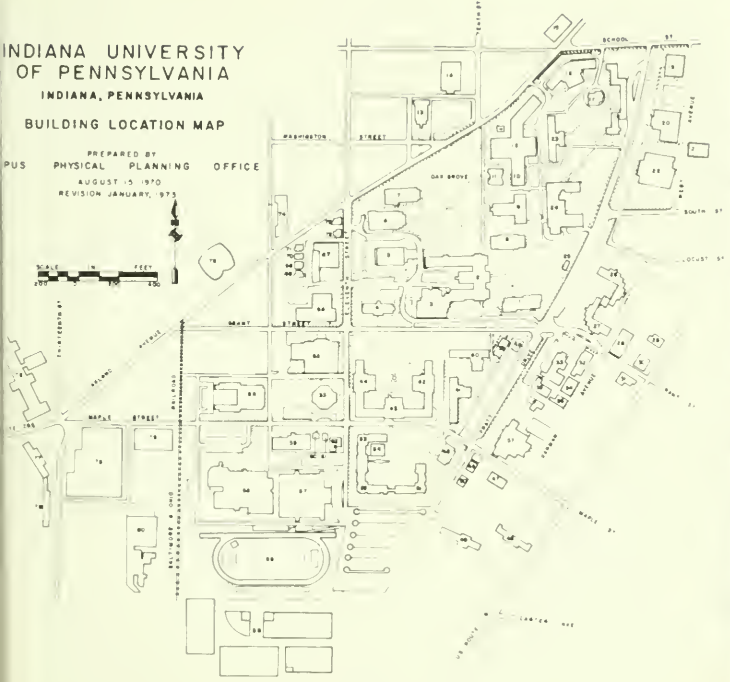
AUGUST 15 1970
REVISION JANUARY, 1973



14	[illegible]
19	Pratt Ha[illegible]
28	[illegible]
29	[illegible]
34	[illegible]
36	Maintenance Garage
38	[illegible]
39	[illegible]
40	[illegible]
41	[illegible]
43	Stewart Ha[illegible]
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80	[illegible]

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